

LEGAL AND INSTITUTIONAL METHODS APPLIED TO THE DEBITING OF DIRECT DISCOUNTS—III. THE CONNECTICUT STUDIES

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THE first article of this series purported to be an application of legal method to the problem of debiting direct discounts presented by *Callaham v. Bank of Anderson*,¹ *Delano v. Equitable Trust Co.*,² and *Goldstein v. Jefferson Title & Trust Co.*³ The second, attempting a critical evaluation of the first, took the first to be typical of the intellectual procedure of lawyers when venturing a forecast of future decisions, and concluded that its implicit forecast was an intuitive judgment and its pretended application of legal method a post-rationalization. Because in elaborating a post-rationalization there is a semblance of the application of legal method to the problem, that method is thought of as a sufficient means to forecasting. Because lawyers think they have an adequate method, they continue to rely exclusively on intuition and have not even attempted to devise methodical approaches to litigation-situations which if successful would limit the sphere of intuition. It was urged that a methodical study should be undertaken and that it should be directed at cultural factors. A method for the study of the causal relation between decisions, on the one hand, and the type and degree by which the behavior of the litigants ("the facts") deviates from the regularly followed behavior patterns, on the other, was outlined. It was proposed to apply it to "the facts" of the three principal cases and the comparable behavior sequences in the contemporary culture of South Carolina, New York, and Pennsylvania. This article is a report of the study of Connecticut patterns undertaken in preparation for the necessary investigations of the relevant institutions in those states.

I

Two inquiries, distinct as to method, were conducted in Connecticut during the fall and winter of 1929-30. The first, referred to as the interview study, was made in October and November. During that period there were 158 commercial banks doing business in the state.⁴ Each of these banks, with the

¹ 69 S. C. 374, 48 S. E. 293 (1904).

² 110 Misc. 704, 181 N. Y. Supp. (Sup. Ct. 1920).

³ 95 Pa. Super. Ct. 167 (1928).

⁴ The Report of the Comptroller of the Currency for 1928 (p. 24) showed 64 national banks and the Connecticut State Bank Report for 1928 listed 94 state commercial banks. The Rand McNally Bankers Directory for January 1928 showed 65 national banks and 94 state banks. Between the

exception of one in New Haven which was overlooked, was visited. At all except four of the 157 banks answers to the list of questions were secured.

The answers in each case were secured by the investigator, the junior author, from an officer or clerk familiar with the operation of the loan and discount department. In most instances the person interviewed was the officer in charge of that department; in the remainder, the discount clerk. The list of questions was handed to the officer or clerk except in about ten cases in which the questions were propounded orally. In these ten cases there was nothing during the course of the interviews or in the content of the answers which indicates any difference in the answers because of the manner in which the questions were asked. In all instances questions were answered by word of mouth in the order in which they appeared in the list of questions. If an answer did not seem to be clear or responsive the investigator explained the question. Pains were taken always to give the same explanations. The answers to the questions which were explained are perfectly consistent with the answers to the same questions unexplained. The answers were forthwith recorded by the investigator. Confidential use of the answers was always promised. Most of the questions dealt with matters of banking practice in regularly recurring situations and not with matters of policy or the action taken in exceptional situations. The answers purported to state that practice. Some questions asked for estimates of the frequency of certain specified behavior. With a few exceptions the persons answering seemed interested in the inquiry. In all but one or two cases the answers were willingly given. In these, however, the questions were not slighted in any way. The fact that the questions did not seek to elicit any information which would be embarrassing to the person answering or to his bank, together with the confidential use of the information which was promised, must have eliminated any tendency to color or falsify the answers. Consequently it is believed that the answers are comparable and with the exception of the answers to questions asking for estimates of frequency are reliable. The reliability of these estimates will be discussed below.

The list of questions used at the beginning of the inquiry was:

Situation for questions 1-6: You are holding a time note made by one of your customers which you have discounted for him.

1. Do you send him a notice previous to maturity?

time when the reports were published and October 1929, two banks merged. An examination of the classified directory in the telephone book for each of the larger towns disclosed two new banks. It was also found that two national banks had state charters as well as national charters though but one commercial banking business was done by each.

2. On the day of maturity do you charge his account upon the receipt of his check, drawn on you, for the amount of the note?
3. On the day of maturity do you charge his account upon other specific authority such as personal interview, telephone message, or letter?
4. On the day of maturity do you charge his account without specific instructions from him to do so?

If "yes"

- (a) at what hour do you make the charge?
 - (b) do you send him a debit slip?
 - (c) what procedure do you follow if he does not have a credit balance equal to the amount of the note?
5. Does the procedure on the day of maturity, given above, vary according to whether or not the loan is secured?
- If "yes" please explain.

Situation for questions 7-13: You are holding a receivable, the maker and endorser of which are your customers.

9. Do you send the maker a notice previous to maturity?
10. Do you send the endorser a notice previous to maturity?
11. On the day of maturity do you charge the maker's account without specific instructions from him to do so?
12. On the day of maturity do you charge the endorser's account directly without first looking to the maker?
13. On the day of maturity do you charge the endorser's account if the maker's balance is insufficient to meet the note?
15. Approximately what percentage of your time notes are paid? Are renewed?
16. Of those renewed approximately what percentage are renewed at or before maturity. After maturity?

Situation for questions 18-20: You are holding a demand note of a customer on which you have made him a loan.

18. Do you ever charge a demand note of a customer to his account without any notice or call upon him to do so?
19. How much time do you allow a customer to pay a demand note after it has been called?
20. At the end of this time do you treat it as though it were a matured time note?
21. When do you treat a demand note as past due?
28. Of those time notes which are paid in full by the borrower, approximately what percentage are paid:
 - (a) by drawing a check, on his account with you, to your order for the amount of the note?
 - (b) by instructing you, by letter, telephone or personal interview to charge his account?
 - (c) by your charging his account without such instructions or check?

After thirty banks had been visited the list of questions was amended by the addition of the following questions:

6. Approximately what percentage of your loans to makers are made on:
 - (a) single name, unsecured paper?
 - (b) endorsed paper?
 - (c) secured paper?

7. Do you require that the note be made payable at some bank? Or do you discount even though payable at the maker's place of business?
8. Do you require the endorser to waive presentment and notice?
14. If the maker is not a customer, do you charge the endorser's account if the note is not paid at maturity?
17. What is your practice with reference to the length of maturities of time notes?
22. Approximately what percentage of your demand notes are unsecured?
23. What is your procedure on demand notes bearing the signature of a person other than the borrower with respect to:
 - (a) the character of the endorsement?
 - (b) renewal of the obligation after a specific period?
24. Do you charge interest by day or month?
25. Do you charge interest in advance?
26. When you extend a line of credit do you require the borrower to maintain a minimum balance?

If "yes," approximately what percentage of the line of credit do you require:

 - (a) when the loan is unsecured?
 - (b) when the loan is secured?
 - (c) when the customer maintains a savings account balance?

If the customer's balance falls below this minimum do you make a charge for the deficiency?
27. Do you allow interest on checking account balances?

No change was made in any of the other questions nor were any excluded. With the exception of question six, the answers to these additional questions are not germane to this study.

The interpretation of certain of the questions and answers should be made explicit. Questions two, three, four, and five asked whether or not the bank makes a "charge" in various specified situations. The word "charge" (whether the charge was made after the receipt of a check or instructions or without either check or instructions at the opening or close of business, and whether the charge was made before, on, or after the day of maturity) was taken to mean (a) the making of a debit entry in the customer's ledger account resulting in a reduction of the book credit balance, and (b) the reference, thereafter, by the paying or bookkeeping department, of all checks and other items for more than the amount of the book credit balance (after the debit entry) to an officer as in the case of other overdrafts. Answers that a charge was not made were taken to mean that checks were honored up to the same amount that they would have been had the note not matured.

Questions two, three, four, and five were directed at situations in which the customer has a sufficient balance. Question four made express reference to an insufficient balance situation. Moreover in every interview the fact that these questions were concerned with sufficient balance situations only was made clear to the person being interviewed. A sufficient balance was stated to mean that the book credit balance of the customer at the time

the debit entry is made on the day of maturity is equal to or more than the amount of the note which matures.

Question six asked the percentage of single name unsecured, endorsed unsecured, and secured notes which either had been discounted for or upon which loans had been made to the maker. It is believed that the estimates given in response to this question are unreliable. The banker groups all his notes, time and demand, directs and receivables into two classes, secured and unsecured. The financial statements of banks are exemplary. He does not classify notes into demands, directs and receivables and then subdivide each class into secured and unsecured. There is no way of deciding which of the persons interviewed attempted this difficult task. That some of them did not is indicated by the fact that some bankers who in reply to question five answered that their banks held no secured time notes, nevertheless, in answering question six gave an estimate of the number of their secured time notes. Consequently the answers to question six are relied on simply to show that time notes sometimes are secured and sometimes are not.

Question fifteen asked what percentage of all maturing time notes are paid and what percentage are renewed. In each interview it was made clear that "paid" referred only to notes paid in full and that "renewed" included notes renewed either in part or in full. Nevertheless, it is believed that the answers should be interpreted as estimates of the percentage of the face amount of all maturing time notes received in payment (whether in part or in full) and the percentage of that amount renewed (whether in part or in full). Since the matter in which bankers are interested is their available loaning capacity, what they probably had in mind in answering the question is the average percentage of the total amount paid each day upon their daily maturities. The answers to question fifteen are interpreted as giving percentages of amounts and not of items.

Question sixteen asked the percentage of time notes renewed either before or at maturity and the percentage of time notes renewed after maturity. It is believed, however, that the answers give the percentage of notes taken care of, *i.e.*, paid in full, paid in part, or renewed in full, at or before maturity and the percentage of notes taken care of after maturity. In many instances the answers first given were that a certain percentage of notes are not taken care of and when it was made clear that the question referred to renewals the answers were nevertheless allowed to stand. In other instances it was said that the answers stated the percentage of notes taken care of on or before and the percentage of notes taken care of after maturity. The apparent similarity between this question and one asking the percentage of time notes taken care of at or before and taken care

of after maturity is another factor making for the same conclusion. The answers are therefore interpreted as estimates of the percentage of notes taken care of at or before maturity and the percentage of notes taken care of after maturity. Even if some of the answers do refer to renewals no major difficulty is presented. It is judged from experience that the ratio of the percentage of notes renewed at or before maturity and the percentage renewed after maturity is the same as the ratio of the percentage of notes taken care of at or before maturity and the percentage taken care of after maturity.

The answers to question sixteen are taken as percentages of the number of items and not as percentages of the amounts. Many of the answers to question sixteen were "very few notes are renewed after maturity," or "a small percentage of our notes are not taken care of promptly," or similar statements which referred to items. Again it would seem that the experience of note tellers and officers would be such as to cause them to think of the number of notes taken care of promptly and the number of notes not taken care of promptly. Furthermore it would seem to be extremely difficult to answer this question in terms of amounts.

Questions fifteen and sixteen were not in terms limited to notes received from customers. But the answers are taken to refer to such notes. Except for purchases in the open market, which at the express request of the investigator were never included in the answers, the vast majority of time notes held by banks are received from customers.

Question twenty-eight asked in what percentage of the cases in which time notes are paid in full does the borrower give the bank a check on his account, in what percentage of the cases does he instruct the bank to charge the note and in what percentage of the cases does the bank charge the note without instructions or check. Since the question referred to all time notes the answers refer to payments of both direct time notes and receivables, whether secured or unsecured. Because the word "borrower" means, to a banker, the person for whom a note is discounted whether that person is the maker or an indorser the answers refer to all payments whether by the maker of a direct, by the maker of a receivable, or by the indorser of a receivable. Although question twenty-eight does not specify the date of payment the answers refer to payments made on and after the day of maturity and not to those made before maturity. Experience is believed to justify the conclusion that the latter occur so infrequently that the question was not taken to refer to them. Consequently the answers to question twenty-eight indicate the percentage of time notes, whether direct or receivables and whether or not secured, which are paid in full on and after ma-

turity out of the checking accounts of makers and indorsers by checks, by instructions, and by debits (without either check or instructions).

While question twenty-eight does not offer any basis for estimating the number of payments made on the day of maturity as compared to the number of payments after the day of maturity, the answers are interpreted in the light of the answers to question sixteen to indicate that the ratio of the number of payments on the day of maturity to the number of payments after maturity is that given by the answers to question sixteen. Thus the ratio of the number of payments by check on the day of maturity to the number of payments by check after the day of maturity is that given by the answers to question sixteen. This is equally true of payments by instructions and by debits (without either check or instructions).

Questions fifteen, sixteen, and twenty-eight asked for estimates of the frequency of certain aspects of behavior in terms of percentage. The answers are of course approximate estimates and their expression in numerical terms should not be allowed to mislead. The convenience of using such symbols in assembling and comparing the answers to these questions is so great that percentage figures are employed notwithstanding the danger of their misleading appearance of precision. Likewise convenience dictates the use of "frequency" to refer to *estimates* of frequency.

The answers as interpreted were tabulated. Since whether a transaction is sequential depends on its frequency, in order that the results shall approximate the fact as closely as possible, the answers of each bank should be weighted according to the number of transactions occurring in that bank. This is not done because the study does not show the number of transactions. Approximations of the number of transactions in each bank by an analysis of the item of loans and discounts in its financial statement or by reference to the volume of its resources are of little if any value. The average amount of notes varies considerably with each bank. Also, the item of "loans and discounts" includes directs and receivables, time and demand notes, customers' paper and paper bought in the open market in proportions varying so widely that there is little likelihood that the volume of loans and discounts is an index of the number of transactions. Similarly there seems to be no evidence of any relationship between the size of a bank, as measured by its resources or any other standard, and the number of transactions. Consequently in making the tabulations the answers were given equal value, doubtless with the result that the calculated frequencies are the less reliable.

In instances in which non-numerical answers were given to

questions asking for percentage estimates of frequency the probable numerical equivalents were substituted so that averages might be made. This was done without hesitation since the estimates of frequency were asked and given in terms of percentages merely because this is the most convenient way of indicating the frequency of certain behavior as compared with that of other behavior.

In determining the frequency of certain specified behavior preceded or followed by other specified behavior, as for example the frequency of check payments following the sending of a notice of prospective maturity, the answers of each bank to the relevant questions were associated directly. Thus instead of merely associating the percentage of banks sending notices of prospective maturity and the average of the percentage estimates of check payments, the answers to twenty-eight(a) (which showed the frequency of check payments) of those banks which send out notices were totalled and divided by the number of banks answering twenty-eight(a).

The following conclusions were drawn from the interview study.⁵

(1) That discounts and loans to makers of direct time notes who are customers, as distinguished from discounts and loans to makers of direct time notes who are not customers, are frequent is indicated by the fact that the answers to questions one to five which were addressed to the situation in which the bank holds the customer's direct time note were stated with the positive assurance with which are given descriptions of the way everyday situations are met.

(2) For the same reason the answers to questions two, three, four, and five show that direct time notes are frequently paid in full out of the checking account. The number of such payments is indicated by the answers to question fifteen as interpreted. The percentage of maturing direct time notes paid in full by customers as shown by an average of the estimates of the 134 banks answering this question is 16. Acquaintance with banking justifies the conclusion that a large majority of these payments are made out of the checking account.

(3) The discounting of or lending upon the direct time notes of customers sometimes is accompanied by the pledging of collateral and sometimes is not. In answer to question five only five banks stated that they do not have secured direct time notes. The answers to question six also indicate that some direct time notes are secured; the answers to questions four and six show that some are not. Nevertheless no conclusion as to the fre-

⁵ The aspects of behavior which make up the transactions are sometimes referred to by the symbols described in the second article of this series. These symbols appear in italics.

quency of secured as compared to unsecured direct time notes can be reached from the answers given in the interview study. The answers to question six which asked for the percentage of secured and unsecured direct time notes were judged to be of no value beyond indicating that such notes are sometimes secured and sometimes unsecured.

(4) Whether or not the proceeds of direct time notes are credited is not indicated by the interview study except insofar as it appears that loans upon or discounts of such notes are usually made for checking account customers.

(5) In answer to question one 103 banks stated that they send notices of prospective maturity to the makers of all direct time notes and 50 stated that they do not.

(6) There was no question specifically dealing with the practice of placing a hold against the customer's account on the morning of the due date. The information sought by questions four and four (a), however, was such that it is unlikely that a banker in a bank which places holds would answer these questions without disclosing the practice. If the answers were perfunctory it is possible that these questions might have been answered without any comment. The interviews, however, with the exception of a very few, were thoughtfully and willingly given. Moreover, in many instances discussion of question four failed to disclose the existence of the practice despite the fact that the discussion was of a scope which would have done so were there any such practice. Indeed in some instances it was said that holds are not placed.

(7) The interview study does not show whether or not payments by check before the day of maturity happen or, if they do, their frequency. As interpreted, the answers to question twenty-eight (a) are directed at payments by check on and after the day of maturity.

(8) In reply to question two each of the 153 banks answered that it charges a customer's account with the amount of a check given on the day of maturity in payment of his direct time note.

The frequency of such payments by check on the day of maturity depends upon the answers to question twenty-eight (a). 140 banks answered this question; 13 did not. Of these answers 97 were numerical and 43 were non-numerical. The non-numerical answers were given numerical values in the light of the answers of the bank to the other subdivisions of question twenty-eight. The three subdivisions specified the only ways in which payments out of the checking account are made. Thus the word "few" was valued at five where the other answers were "95" and "none" and at two where the other answers were "over 95" and "few."

As interpreted, the answers to twenty-eight (a) indicate the

frequency of check payments of all time notes whether directs or receivables, whether secured or unsecured, and whether made on or after the day of maturity. It is believed that these estimates are as true for direct time notes as they are for direct time notes and receivables combined and have been taken to apply to the former.

The average of the 140 answers is 69 per cent. This average is an average for check payments whether made on or after the day of maturity and whether or not preceded by the sending of a notice of prospective maturity. The percentage of check payments on the day of maturity may be computed by reference to the answers to question sixteen. The percentage of notes paid in full out of the checking account which are paid on the day of maturity is the same as the percentage of all notes taken care of which are taken care of on the day of maturity. The answers to question sixteen show that 95 per cent of all notes taken care of are taken care of on the day of maturity. Consequently the number of check payments on the day of maturity is estimated to be 95 per cent of the number of check payments made or 66 per cent.⁶

In order to determine the frequency of payments by check on the day of maturity which are and which are not preceded by a notice of prospective maturity the answers to twenty-eight (a) of those banks which send notices were totalled and divided by 140 and the same procedure was followed with the answers of banks not sending notices. The frequency of check payments preceded by *notice* was found to be 49 per cent and of check payments not preceded by *notice* 20 per cent. These percentages include payments on and after maturity. The frequency of *check-on* preceded by *notice* is 46 per cent and not preceded by *notice* 19 per cent.

(9) No question asked whether payments after maturity are made by the customer's check. The answers to question sixteen, however, showed that some notes are taken care of, *i.e.*, paid in full or in part or renewed in full, after the day of maturity. It may be inferred that payments after maturity are made by check as well as by instructions or debit. The frequency of payments by check after the day of maturity is shown by the answers to question twenty-eight (a). As pointed out in the preceding paragraph 69 per cent of all payments are check pay-

⁶ A percentage of a percentage is taken because neither question twenty-eight nor any other question shows the number of payments on the day of maturity and the number after. It is only by reference to question sixteen that the ratio of the number of payments on the day of maturity to the number of payments after may be determined. The danger of compounding error which this procedure involves is reduced to a minimum by the fact that the answers to question sixteen were uniformly to the effect that few notes (5 per cent) were not taken care of on the day of maturity.

ments. Of these 5 per cent are after maturity. Consequently 3 per cent of all payments are check payments after maturity. The frequency of check payments preceded by *notice* is 49 per cent and of check payments not preceded by *notice* is 20 per cent. These percentages include *check-after* preceded by *notice* and *check-after* not preceded by *notice*. The frequency of *check-after* preceded by *notice* is 2 per cent and not preceded by *notice* 1 per cent.

(10) No information was sought as to the making of debit entries for the amount of checks given in payment before the day of maturity.

(11) The 153 affirmative answers to question two show that debit entries are always made following the giving of a check on the day of maturity.

(12) No information was sought as to the making of debit entries for the amount of checks given in payment after the day of maturity. But from the answers to question two it is inferred that debit entries always follow the receipt of checks given in payment after the day of maturity.

(13) Question twenty-eight sought no information as to instructions to charge given before the day of maturity.

(14) The answers to question three show that the customers of 152 of the 153 banks give instructions on the day of maturity to charge their direct time notes. The frequency of instructions on the day of maturity depends on the answers to twenty-eight (b). These answers indicate the frequency of payments of all time notes, whether directs or receivables and whether secured or not, by instructions to charge on and after the day of maturity. The average frequency of all instruction payments is 19 per cent. As appears in paragraph (8), 95 per cent of all payments are on the day of maturity. Consequently the average frequency of instructions to charge on the day of maturity is 18 per cent. This figure indicates the frequency of *instructions-on* preceded by *notice* and not preceded by *notice*. The frequency of all instruction payments preceded by *notice* is 13 per cent and of all such payments not preceded by *notice* is 6 per cent. *Instructions-on* preceded by *notice* have a frequency of 12 per cent and *instructions-on* not preceded by *notice* have a frequency of 6 per cent.

(15) The answers to question sixteen and twenty-eight(b) as interpreted show that after the day of maturity customers give instructions to charge. The frequency of *instructions-after* is indicated by the answers to twenty-eight(b). The frequency of all instruction payments is 19 per cent. Since 5 per cent of these are after maturity the frequency of *instructions-after* is 1 per cent. This percentage includes *instructions-after* whether or not preceded by *notice*. When the frequency of *instructions-*

after preceded by *notice* and not preceded by *notice* is determined it is found that the frequency of each is less than 1 per cent.

(16) No information was sought as to the making of debit entries following instructions to charge given before the day of maturity.

(17) The 152 affirmative answers to question three show that debit entries are always made following instructions to charge given on the day of maturity.

(18) No information was sought as to the making of debit entries following instructions to charge given after the day of maturity. But from the answers to question three it is inferred that debit entries always follow the giving of instructions to charge.

(19) The answers to question four show that of the 153 banks 100 make debit entries on the day of maturity (without either check or instructions) for the amount of unsecured direct time notes of customers and that 9 sometimes do so. From the 153 answers to question five it appears that only 14 of these 109 banks make debit entries for the amount of secured direct time notes on the day of maturity without either instructions or check. Of the banks which make debit entries without either instructions or check on the day of maturity, 13 do so at the opening for business or during the day and 96 at the close of business.

The frequency of *debit-opening* depends on the answers to four(a) and twenty-eight(c). As interpreted the answers to twenty-eight(c) indicate the frequency of payments of all time notes whether directs or receivables and whether secured or not by the making of debit entries (without instructions or check) either at the opening for or at the close of business on the day of maturity or on a subsequent day. As appears in paragraph (8), 95 per cent of the debit entries without instructions or check are on the day of maturity. The frequency of debit entries (without instructions or check) at the opening for business as shown by the answers to four(a) and twenty-eight(c) is 1 per cent and consequently the frequency of *debit-opening* is 1 per cent. This figure shows the frequency of *debit-opening* whether or not preceded by *notice*. The frequency of debit entries (without instructions or check) at the opening for business on or after the day of maturity which are preceded by *notice* is 1 per cent and of those which are not preceded by *notice* is less than 1 per cent. The frequency of *debit-opening* (on the day of maturity) preceded by *notice* is 1 per cent and not preceded by *notice* less than 1 per cent.

(20) The answers to question four(a) show that 96 of the 109 banks which on the day of maturity make debit entries (without instructions or check) for the amount of a customer's

direct time note, do so at the close of day. The frequency of *debit-close* depends upon the answers to questions four(a) and twenty-eight (c). As interpreted, the answers to twenty-eight (c) indicate the frequency of payments of all time notes, whether directs or receivables and whether secured or unsecured, by the making of debit entries (without instructions or check) on the day of maturity either at the opening for or close of business or after the day of maturity. As pointed out in paragraph (8), 95 per cent of these are made on the day of maturity. The frequency of debit entries (without instructions or check) at the close of business as shown by the answers to four(a) and twenty-eight(c) is 11 per cent and consequently the frequency of *debit-close* is 10 per cent. This percentage shows the frequency of *debit-close* whether or not preceded by *notice*. The frequency of debit entries (without instructions or check) at the close of business on or after the day of maturity which are preceded by *notice* is 7 per cent and of those which are not preceded by *notice* is 4 per cent. Consequently the frequency of *debit-close* preceded by *notice* is 6 per cent and not preceded by *notice* is 4 per cent.

(21) The answers to questions sixteen and twenty-eight(c) as interpreted show that 109 banks make debit entries after the day of maturity without instructions or check. The frequency of *debit-after* depends on the answers to twenty-eight(c). The frequency of debit entries without instructions or check on and after the day of maturity is 12 per cent and since 5 per cent of these, as pointed out in paragraph (8), are made after the day of maturity the frequency of *debit-after* is 1 per cent. This figure shows the frequency of *debit-after* whether or not preceded by *notice*. The frequency of debit entries (without instructions or check) preceded by *notice* is 8 per cent and not preceded by *notice* is 4 per cent. As 5 per cent of these are made after the day of maturity the frequency of both *debit-after* preceded by *notice* and of *debit-after* not preceded by *notice* is less than 1 per cent.

(22) The answers to question four (b) show that of the 109 banks which make debit entries (without instructions or checks) 46 send a notice of such a debit entry to customers and 61 do not. Two banks did not answer this question.

The frequency of notice of debit preceded by other behavior may be determined by the answers to questions one, four (a), four(b), and twenty-eight(c). The frequency of *notice-debit* preceded by notice of prospective maturity and debit entries (without instructions or check) at the opening of business is less than 1 per cent. Consequently, since 95 per cent of these are on the day of maturity, as pointed out in paragraph (8), the frequency of *notice-debit* preceded by *notice* and *debit-opening* is less than 1 per cent. The frequency of *notice-debit* pre-

ceded by debit-entries (without instructions or check) at the opening of business is less than 1 per cent and consequently the frequency of *notice-debit* preceded by *debit-opening* is less than 1 per cent. The frequency of *notice-debit* preceded by notice of prospective maturity and debit entries (without instructions or check) at the close of business is 2 per cent and consequently the frequency of *notice-debit* preceded by *notice* and *debit-close* is 2 per cent. The frequency of *notice-debit* preceded by debit entries (without instructions or check) at the close of business is 1 per cent and consequently the frequency of *notice-debit* preceded by *debit-close* is 1 per cent. The frequency of *notice-debit* preceded by notice of prospective maturity and debit entries (without instructions or check) is 2 per cent and consequently the frequency of *notice-debit* preceded by *notice* and *debit-after* is less than 1 per cent. The frequency of *notice-debit* preceded by debit entries (without instructions or check) is 1 per cent and consequently the frequency of *notice-debit* preceded by *debit-after* is less than 1 per cent.

The frequency of debit entries at the opening for business preceded by notice of prospective maturity but not followed by *notice-debit* is 1 per cent. Consequently the frequency of *notice* and *debit-opening* not followed by *notice-debit* is 1 per cent. The frequency of debit entries at the opening for business not followed by *notice-debit* is less than 1 per cent. Consequently the frequency of *debit-opening* not followed by *notice-debit* is less than 1 per cent. The frequency of debit entries at the close of business preceded by notice of prospective maturity but not followed by *notice-debit* is 5 per cent. Consequently the frequency of *notice* and *debit-close* not followed by *notice-debit* is 4 per cent. The frequency of debit entries at the close of business followed by *notice-debit* is less than 1 per cent. Consequently the frequency of *debit-close* not followed by *notice-debit* is 3 per cent. The frequency of debit entries preceded by notice of prospective maturity but not followed by *notice-debit* is 6 per cent. Consequently the frequency of *notice* and *debit-after* not followed by *notice-debit* is less than 1 per cent. The frequency of debit entries not followed by *notice-debit* is 3 per cent. Consequently the frequency of *debit-after* not followed by *notice-debit* is less than 1 per cent.

(23) The answers to questions two, three, four, and five show that after debit entries in payment of notes, whether or not a notice of debit has been sent, checks for amounts beyond the credit balance remaining are referred to an officer as overdrafts. This is as true in the case of a debit at the opening for business on the day of maturity made without check or instructions as it is in any other case in which a debit entry is made.

Between February 14 and March 17, 1930, another study, called the day study, was made in Connecticut. During that period the number of commercial banks within the state was 158, the same number that existed when the interview inquiry was made. The day study was restricted to nineteen or 12.03 per cent of these banks. Each of the nineteen was chosen because of its proximity to New Haven and because of the likelihood that it would allow the study to be made. There were no other selective factors. The nineteen included both large urban banks and small rural institutions.

Information as to the behavior of the bank and customer in each of 433 time note transactions was secured and recorded on worksheets. The study at each bank was confined to the maturities of a single day. The number of notes maturing at each bank ranged from two at one to fifty-three at another.

A written list of explanations and interpretations of the column headings which appear below was supplied to each of the six investigators.

1. Amount
2. Rate of interest
3. Length of note
4. Kind of note
5. Accommodation endorser
6. Collateral
7. Renewal
8. Purpose

Borrower

9. Legal character
10. Customer
11. Charge arrangement, if any

Accommodation Endorser

12. Customer
13. Charge arrangements, if any

Receivables

14. Is maker a customer

Before Communication

15. Notice to bookkeeper
16. Treatment of checks and other items

Communication

17. Amount received in payment
18. How paid
19. Notice to bookkeeper
20. Treatment of checks and other items

No Communication

21. Attempt to reach customer

22. Notice to bookkeeper
23. Treatment of checks and other items
24. State of balance at close of day's business
25. Past due—why

The information was obtained and the worksheet filled in either during the day as each transaction was consummated or at the close of business on that day⁷ or on the following day.⁸ The information was secured by the investigators from a person acquainted with the transactions who was either an officer in charge of the loan department or a teller in the discount cage. Sometimes both officer and teller were consulted. The officer or teller sometimes had the notes and always had the note tickler before him. In one case the procedure was different. The worksheet was mailed to the bank and filled in by someone, probably an officer or teller.

It is believed that the information recorded on the worksheets is reliable. In all cases information as to behavior before the day of maturity was obtained from a person who had the notes or tickler before him. The behavior of the parties on the day of maturity was recorded from the evidence of an officer who had observed the behavior either just a few moments before, a few hours before or the day before. In the cases in which the recording was not substantially synchronous with the events the officer or teller had the note tickler before him. The information contained in the one worksheet which was filled in by the bank and not by the investigator is also thought to be reliable. The intelligent and thorough manner in which every item of information sought is given stamps this worksheet as accurate.

The information is also believed to be comparable. It is true that the studies were not made at all the banks on the same day nor on the same day of the week and that the studies were scattered over a period of five weeks. But there is no reason to believe that the aspects of behavior studied varied from one day of the week to another or during the period of the studies.

The data disclosed by the worksheets is summarized below. In the summary each transaction is given equal consideration.

(1) Of the 433 notes which matured 301 were direct time notes. All but 23 of these were the notes of checking account customers. All of the 132 receivables were endorsed to the bank by customers.

(2) Of the 278 direct time notes of customers, 236 were taken care of, *i.e.*, paid in full or in part or renewed in full, on the day of maturity. 30 notes were paid in full. 24 of these, or

⁷ Upon the consummation of each transaction, in 5 banks; at the close of the day, in 5.

⁸ 8 banks.

10.17 per cent of those taken care of on the day of maturity, were paid out of the checking account. 3 were paid in cash and 3 by checks on other banks.

(3) Of the 24 direct time notes which were paid in full out of the checking account 6 or 25 per cent were secured and 18 were not. Of the other 254 direct time notes of customers, 77 or 30.31 per cent were secured and 177 or 69.69 per cent were not. Of the total of 278 notes 83 or 29.86 per cent were secured.

(4) In this study no information was sought as to whether or not a credit entry was made for the amount of the proceeds of loans or discounts.

(5) No attempt was made to ascertain whether or not notice of the prospective maturity of the time note was sent to the borrower.

(6) Column fifteen shows that neither in any one of the 24 transactions in which direct time notes were paid in full nor in any one of the other 254 direct loan or discount transactions was a hold placed against the maker's account on the morning of the due date.

(7) Since the day study sought information as to the disposition of notes on the day of maturity it does not show whether or not direct time notes are paid by check before the day of maturity.

(8) 13 or 54.17 per cent of the 24 direct time notes which were paid in full out of the checking account were paid by the customer's check drawn on his account with the bank. 2 of the 13 were secured and 11 were not. Since the 236 notes taken care of on the day of maturity are 84.89 per cent of all the direct time notes of customers it is inferred that the 24 direct time notes paid in full out of the checking account are 85 per cent of the direct time notes paid in full out of the checking account.⁹ Consequently the frequency of payments of secured direct time notes by check on the day of maturity is 7 per cent and of unsecured direct time notes, 39 per cent.

(9) The day study yields no information as to whether or not direct time notes are paid by check after the day of maturity since the study was confined to the day of maturity.

(10) No information was sought as to the making of debit entries for the amount of checks given before the day of maturity.

(11) In each of the 13 transactions in which a direct time note was paid in full by check on the day of maturity a debit

⁹ 85 per cent may be an understatement of the percentage of payments effected on the day of maturity. Of the 42 notes not taken care of on the day of maturity, on the basis of which it was inferred that 15 per cent of payments are made after the day of maturity, 25 were in 3 banks. These banks may not have been representative.

entry for the amount of the check was made in the customer's ledger account.

(12) There were no columns in the worksheet in which to record the making of debit entries for the amount of checks given after the day of maturity.

(13) The day study does not show whether or not instructions are given before the day of maturity to charge before or on the day of maturity.

(14) In the case of 7 of the 24 direct time notes paid in full on the day of maturity, instructions to charge were given on the day of maturity. Since the notes paid on the day of maturity, as pointed out in paragraph (8), are 85 per cent of the notes paid, the frequency of *instructions-on* is 25 per cent. 3 of the 7 notes were secured and 4 were not. Consequently the frequency of *instructions-on* where the direct time notes are secured is 11 per cent and where unsecured 14 per cent.

(15) In this study no information was sought as to whether or not instructions to charge direct time notes are given after the day of maturity.

(16) Nor was information sought as to the making of debit entries in the customer's ledger account following *instructions-before*.

(17) In each of the 7 transactions in which instructions to charge were given on the day of maturity debit entries were made in the customer's ledger account.

(18) This study does not show whether or not debit entries are made in the customer's ledger account following *instructions-after*.

(19) Column fifteen shows that in none of the direct loan or discount transactions recorded was a debit entry (without instructions or check) made in the customer's ledger account at the opening for business.

(20) In 4 of the 24 transactions in which direct time notes were paid in full out of the checking account on the day of maturity a debit entry without instructions or check was made in the customer's ledger account at the close of business. One of the notes so paid was secured and three were unsecured. Since, as pointed out in paragraph (8), 85 per cent of the direct time notes paid out of the checking account are paid on the day of maturity the frequency of *debit-close* of secured direct time notes is 4 per cent and of unsecured direct time notes 11 per cent.

(21) The worksheets did not provide for the recording of information as to the making of a debit entry without instructions or check after the day of maturity.

(22) No information was sought as to whether or not a notice of the making of a debit entry without instructions or check was sent.

(23) The day study does not show whether or not checks for more than the amount of the book credit balance following the making of a debit entry were presented nor whether or not such checks were honored. Columns sixteen, twenty, and twenty-three in which this information was to have been recorded were not filled in.

II

An attempt will now be made to state, first, which of the 80 possible transactions¹⁰ judged likely to happen in Connecticut do happen, and, secondly, the frequency of each of them. The statements will be in part an integration of the data obtained in the two studies, in part inference from that evidence, and in part intuitions of experience. Although these three processes are employed in determining both the happening and frequency of transactions, care is taken in each case to indicate upon which of them reliance is being placed. It is thought better to conclude a study in this manner than to end it with the recapitulation of the evidence which has just been given. When the process is integration or inference, sufficiency of evidence and cogency of reasoning can best be judged when in juxtaposition with conclusion; when experience is relied upon, the need of further inquiry and reliable evidence can best be decided if the conclusion from experience is made to take its place in a symmetrical mosaic of findings.

Whether a likely possible transaction is found to happen depends upon the finding that each of its constituent aspects of behavior happens, and that each invariably happens in the order indicated by the likely possible transactions. Therefore in a detailed presentation of conclusions as to which of the 80 likely possible transactions happen in Connecticut, it is convenient to take up in order each of the aspects of each of the likely possible transactions and to ascertain its happening and by what other aspects it is preceded or followed.

(1) The behavior referred to by *discount* happens very frequently (par. (1), p. 759, *supra*; par. (1), p. 767, *supra*).

(2) *Security* sometimes does and sometimes does not accompany *discount* (par. (3), p. 759, *supra*; par. (3), p. 768, *supra*).

(3) That *credit* whether preceded by either *discount*, *security* or *discount* happens is judged from experience (see par. (4), p. 760, *supra*; par. (4) p. 768, *supra*). Support for this judgment is supplied by the facts as to the percentage of exchanges which are effected by means of deposit currency and the percentage of the volume of deposit currency which is created by loans and discounts.¹¹

¹⁰ See the second article of this series (1931) 40 Yale L. J. 555, 572.

¹¹ KEMMERER, MONEY AND PRICES (1909) 101-108; KINLEY, THE USE OF

(4) *Credit* preceded by either *discount, security, or discount* sometimes is and sometimes is not followed¹² by *notice* (par. (5), p. 760, *supra*; par. (5), p. 768, *supra*). It appears, therefore, that since either *discount, security, credit, notice, or discount, credit, notice, or discount, security, credit, or discount, credit* appears in each of the 80 likely possible transactions, all of them may be transactions.

(5) *Hold* does not happen (par. (6), p. 760, *supra*; par. (6), p. 768, *supra*). Consequently likely possible transactions 1-4, 9-12, 25-8, 33-6, 49-52, 57-60, 65-8, and 73-6 which include the aspect of *hold* preceded by either *discount, security, credit, notice, or discount, credit, notice, or discount, security, credit, or discount, credit*, are not transactions.

(6) It is believed that payments in full of direct time notes before the day of maturity by check, if they occur at all, happen so infrequently that they may be disregarded (see par. (7), p. 760, *supra*; par. (7), p. 768, *supra*). Experience indicates that if it is not contemplated that a loan will be liquidated or renewed on a fixed future day a demand rather than a time note is used. Situations in which a time note is used and in which unanticipated events make liquidation by check prior to the day of maturity more convenient to the customer are very infrequent. For the same reason *debit-check* following *check-before* may be disregarded. Consequently likely possible transactions 41-44 which terminate with *check-before* and *debit-check* either are not transactions or, if they are, happen so infrequently that further inquiry to determine whether they are sequential transactions is unnecessary.

(7) *Check-on* and *debit-check* on the day of maturity happen and happen whether preceded by either *discount, security, credit, notice, or discount, credit, notice, or discount, security, credit, or discount, credit* (par. (8), p. 760, *supra*; par. (11), p. 762, *supra*; par. (8), p. 768, *supra*; par. (11), p. 768, *supra*). Therefore likely possible transactions 5-8 which terminate with *check-on* and *debit-check* are transactions.

(8) *Check-after* followed by *debit-check* happens and happens whether preceded by either *discount, security, credit, notice, or discount, credit, notice, or discount, security, credit, or discount, credit* (par. 9), p. 761, *supra*; par. (12), p. 762, *supra*). It follows that likely possible transactions 53-56 which terminate with *check-after* and *debit-check* are transactions.

(9) For the reasons stated in paragraph (6) (p. 771, *supra*)

CREDIT INSTRUMENTS IN PAYMENTS IN THE UNITED STATES (1910); PHILLIPS, BANK CREDIT (1920).

¹² Moore and Hope, *An Institutional Approach to the Law of Commercial Banking* (1929) 38 YALE L. J. 706; second article of this series 40 YALE L. J. at 566 n. 17.

it is concluded that *instructions-before* followed by *debit-instructions* either does not happen or happens so infrequently that no further inquiry as to whether likely possible transactions 45-48 which terminate with *instructions-before* and *debit-instructions* are sequential transactions is necessary (see par. (13) p. 762, *supra*; par. (16), p. 763, *supra*).

(10) *Instructions-on* followed by *debit-instructions* happens and happens whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. (14), p. 762, *supra*; par. (17), p. 763, *supra*; par. (14), p. 769, *supra*; par. (17), p. 769, *supra*). Consequently likely possible transactions 13-16 which terminate with *instructions-on* and *debit-instructions* are transactions.

(11) *Instructions-after* followed by *debit-instructions* happens and happens whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. (15), p. 762, *supra*; par. (18), p. 763, *supra*; par. (15), p. 769, *supra*; par. (18), p. 769, *supra*). It follows that likely possible transactions 61-4 which terminate with *instructions-after* and *debit-instructions* are transactions.

(12) *Debit-opening* happens and happens whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. (19), p. 763, *supra*; see par. (19) p. 769, *supra*). Consequently likely possible transactions 17-20 which conclude with *debit-opening* are transactions and likely possible transactions 21-4 which include *debit-opening* may be transactions.

(13) *Debit-close* happens and happens whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. (20), p. 763, *supra*; par. (20), p. 769, *supra*). It follows that likely possible transactions 29-32 which terminate with *debit-close* are transactions and that likely possible transactions 37-40 which include *debit-close* may be transactions.

(14) *Debit-after* happens and happens whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. (21), p. 764, *supra*). Consequently likely possible transactions 69-72 which terminate with *debit-after* are transactions and likely possible transactions 77-80 may be transactions.

(15) *Notice-debit* happens and happens after *debit-opening*, *debit-close*, or *debit-after* whether preceded by either *discount, security, credit, notice*, or *discount, credit, notice*, or *discount, security, credit*, or *discount, credit* (par. 22, p. 764, *supra*). It follows that likely possible transactions 21-4, 37-40, and 77-80, all of which terminate with *notice-debit*, are transactions.

It appears, then, that 40 of the likely possible transactions,

5-8, 13-16, 17-24, 29-32, 37-40, 53-6, 61-4, 69-72, and 77-80, represent the patterns to which substantially all the transactions in Connecticut, having the consequences of extinguishment of deposit currency and of liquidation by means of deposit currency, conform. This group of actual transactions is so multitudinous of instances (par. (2), p. 759, *supra*; par. (2), p. 767, *supra*) that the transactions conforming to any one or more of the 40 types may be sequential.¹³ Whether a particular transaction is sequential depends upon how often transactions of its type happen.

A tabulation of the frequency percentages of these types derived from the interview study (par. (1)-(22), pp. 759-764, *supra*) appears in Table I. Since the estimates of the frequency of secured notes given in answer to question six were regarded as unreliable, the percentages are given for pairs of types of transactions.

Table II tabulates the percentages derived from the worksheets of the day study (par. (1)-(22), pp. 767-769, *supra*). Since the worksheets provided no columns for *notice* and *notice-debit*, the percentages are for groups of types of transactions.

Table I¹⁴

Transactions							Frequency Percentage
5.	Dis.	Cr.	Sec.	Nc.	Ck-on	Deb-Ck. }	46.15
6.	Dis.	Cr.		Nc.	Ck-on	Deb-Ck. }	
7.	Dis.	Cr.	Sec.		Ck-on	Deb-Ck. }	19.29
8.	Dis.	Cr.			Ck-on	Deb-Ck. }	
13.	Dis.	Cr.	Sec.	Nc.	Ins-on	Deb-Ins. }	11.95
14.	Dis.	Cr.		Nc.	Ins-on	Deb-Ins. }	
15.	Dis.	Cr.	Sec.		Ins-on	Deb-Ins. }	5.90
16.	Dis.	Cr.			Ins-on	Deb-Ins. }	
17.	Dis.	Cr.	Sec.	Nc.	Deb-op.	}	.92
18.	Dis.	Cr.		Nc.	Deb-op.		
19.	Dis.	Cr.	Sec.		Deb-op.	}	.28
20.	Dis.	Cr.			Deb-op.		
21.	Dis.	Cr.	Sec.	Nc.	Deb-op.	Nc.-Deb. }	.0095
22.	Dis.	Cr.		Nc.	Deb-op.	Nc.-Deb. }	
23.	Dis.	Cr.	Sec.		Deb-op.	Nc.-Deb. }	.095
24.	Dis.	Cr.			Deb-op.	Nc.-Deb. }	
29.	Dis.	Cr.	Sec.	Nc.	Deb-cl.	}	4.45
30.	Dis.	Cr.		Nc.	Deb-cl.		
31.	Dis.	Cr.	Sec.		Deb-cl.	}	2.57
32.	Dis.	Cr.			Deb-cl.		
37.	Dis.	Cr.	Sec.	Nc.	Deb-cl.	Nc.-Deb. }	1.96
38.	Dis.	Cr.		Nc.	Deb-cl.	Nc.-Deb. }	

¹³ Moore and Hope, *op. cit. supra* note 12, at 707; second article of this series 40 YALE L. J. at 566 n. 18.

¹⁴ In order that the total of the estimates will approximate 100 per cent the estimates of frequency in this table are carried to two decimals although the material does not justify such precise estimates.

39.	Dis.	Cr.	Sec.		Deb.-cl.	Nc.-Deb.	}	1.20
40.	Dis.	Cr.			Deb.-cl.	Nc.-Deb.		
53.	Dis.	Cr.	Sec.	Nc.	Ck-aft.	Deb-Ck.	}	2.44
54.	Dis.	Cr.		Nc.	Ck-aft.	Deb-Ck.		
55.	Dis.	Cr.	Sec.		Ck-aft.	Deb-Ck.	}	1.01
56.	Dis.	Cr.			Ck-aft.	Deb-Ck.		
61.	Dis.	Cr.	Sec.	Nc.	Ins-aft.	Deb-Ins.	}	.63
62.	Dis.	Cr.		Nc.	Ins-aft.	Deb-Ins.		
63.	Dis.	Cr.	Sec.		Ins.-aft.	Deb.-Ins.	}	.31
64.	Dis.	Cr.			Ins.-aft.	Deb.-Ins.		
69.	Dis.	Cr.	Sec.	Nc.	Deb-aft.		}	.28
70.	Dis.	Cr.		Nc.	Deb-aft.			
71.	Dis.	Cr.	Sec.		Deb-aft.		}	.15
72.	Dis.	Cr.			Deb-aft.			
77.	Dis.	Cr.	Sec.	Nc.	Deb-aft.	Nc-Deb.	}	.10
78.	Dis.	Cr.		Nc.	Deb-aft.	Nc-Deb.		
79.	Dis.	Cr.	Sec.		Deb-aft.	Nc-Deb.	}	.07
80.	Dis.	Cr.			Deb-aft.	Nc-Deb.		
								100.06

Table II

Transaction	Number of Instances Recorded	Frequency Percentage
5,7	2	7.07
6,8	11	38.91
13,15	3	10.61
14,16	4	14.15
17,19,21,23	0	0
18,20,22,24	0	0
29,31,37,39	1	3.54
30,32,38,40	3	10.61
See par. (8) p. 768, <i>supra</i> .		15.11
		100.00

III

It is believed that this study justifies the conclusion that the 40 types of transactions listed in Table I are the types which happen in Connecticut; and that transactions of other types happen, if at all, so infrequently that they may be disregarded in an attempt to find institutional patterns or sequences. The interview study, confirmed by the day study, is convincing as to the happening and the order of happening of each of the constituent aspects of each of the 40 types except *credit* and the aspects, *check-after*, *instructions-after*, and *debit-after* which differentiate the transactions for liquidating, after maturity, notes which are neither paid nor renewed when due. It is confidently judged for reasons already stated (par. (4), p. 771, *supra*) that *credit* takes its indicated place in each of the 40 types. Acquaint-

ance with banking leads to the conclusion with which the data of both studies are in accord that even though transactions conforming to types 53-6, 61-4, 69-72, and 77-80 are found they happen so infrequently that no one of these types is an institutional way of doing business or a sequence.

A consideration of the significance of the frequency percentages has led to the following conclusions. First, the day study, despite the excellence of its method and the fact that transactions in 12.03 per cent of the banks were recorded, is not representative. The notes for one day only were recorded and but 24 of the 278 direct time notes were liquidated in full out of the checking account. The frequency percentages computed from these 24 notes will be relied upon only as a check on the interview study frequencies.¹⁵ Secondly, the significance of the percentage frequencies of the interview study is not lessened by the fact that the answers of the several banks are not weighted.¹⁶ There appears to be no reason for weighting them. There is no evidence in either study that the types of the transactions which happen in large banks, which might be thought to have more transactions, differ from the types of the transactions which happen in small banks or that the frequency of any one type is greater or less depending upon the size of the bank. Such differences as are disclosed are regional. Thirdly, the answers to questions fifteen, sixteen, and twenty-eight are believed to be reliable estimates. Since these estimates are very numerous, never less than 134 of a possible 153, they have the value which may be assigned to the result of integration of multiple opinions. Fourthly, the reliability is not lessened because some of the estimates are expressed in percentages and a smaller number in words. It is believed that this difference in symbolization is of no consequence. Confidence is placed in the substitution of percentage equivalents for the non-numerical answers which was made in the manner described above.¹⁷ Fifthly, the estimates made in answer to question twenty-eight are as correct for direct time notes as they are of direct and receivable time notes as a group. These answers are taken to show the comparative frequency of payment of direct time notes by check, instructions, and debit on the day of maturity. Insofar as the worksheet frequencies can be used as a check they show substantially the same comparative frequency of check, instruction, and debit payments

¹⁵ It is interesting, however, to note the close correspondence between the results of the two studies. See Table III *infra* note 18.

¹⁶ See p. 758, *supra*.

¹⁷ See p. 760, *supra*.

of direct time notes as do the answers to question twenty-eight.¹⁸ A comparison of the worksheet data for direct with its data for receivable time notes, however, shows a larger number of debit payments of receivables and suggests that the answers to question twenty-eight may show a somewhat larger percentage of debit payments than would estimates made in answer to a question limited to direct time notes. Sixthly, the frequencies appearing in Table I for pairs of types of transactions are as reliable as the estimates for the constituent aspects of behavior in these transactions. No question can possibly be raised as to the accuracy of answers to questions one, four (a), and four (b). Since, for example, a notice of prospective maturity either is sent in every instance or is never sent the answer of a bank which sends notices that 60 per cent of its direct time notes are paid by check is in fact an answer that 60 per cent of its notes are paid by check following a notice of prospective maturity. Consequently the process of computing the frequency percentages which appear in Table I does not in any way weaken the reliance which may otherwise be placed upon them. Seventhly, frequencies for the forty types of transactions cannot be computed from the frequencies appearing in Table I. The interview study provides no estimates as to the frequency of secured and unsecured time notes. If frequencies for transactions are to be determined it must be on the basis of the ratio of secured to unsecured notes shown by the 278 direct time notes of the worksheet.¹⁹ Such a procedure cannot be justified.

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Table III

		Interview Study	Day Study
Discount Credit Check Debit Check		69.19	54.17
Discount Credit Instructions Debit-Instructions		18.79	29.17
Discount Credit Debit		12.07	16.67

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Table IV

	Transaction						Frequency Percentage
5.	Dis.	Cr.	Sec.	Nc.	Ck-on.	Deb-Ck.	13.87
6.	Dis.	Cr.		Nc.	Ck-on.	Deb-Ck.	32.58
7.	Dis.	Cr.	Sec.		Ck-on.	Deb-Ck.	5.76
8.	Dis.	Cr.			Ck-on.	Deb.-Ck.	13.53
13.	Dis.	Cr.	Sec.	Nc.	Ins-on.	Deb-Ins.	3.57
14.	Dis.	Cr.		Nc.	Ins-on.	Deb-Ins.	8.38
15.	Dis.	Cr.	Sec.		Ins-on.	Deb-Ins.	1.76
16.	Dis.	Cr.			Ins-on.	Deb-Ins.	4.14
17.	Dis.	Cr.	Sec.	Nc.	Deb-op.		.27
18.	Dis.	Cr.		Nc.	Deb-op.		.65
19.	Dis.	Cr.	Sec.		Deb-op.		.08
20.	Dis.	Cr.			Deb-op.		.20
21.	Dis.	Cr.	Sec.	Nc.	Deb-op.	Nc-Deb.	.003
22.	Dis.	Cr.		Nc.	Deb-op.	Nc-Deb.	.007
23.	Dis.	Cr.	Sec.		Deb-op.	Nc-Deb.	.03
24.	Dis.	Cr.			Deb-op.	Nc-Deb.	.07

It is believed that the significance of the frequency percentages of Table I is such as to justify certain conclusions. (1) In view of the insignificant frequency of transactions conforming to any one of the eight types of transactions 17-24, types distinguished by *debit-opening*, and even of all transactions conforming to a single type formed by combining these eight into one, no one of the eight is a sequence in Connecticut. (2) The same conclusion cannot be reached as to types 29-42 and 37-40 in which debit entries (without instructions or check) are made at the close of day. While no one of these types shows a significant frequency when compared to payments by check, yet were all the transactions of all of the eight combined in one group, this group would have a frequency of 10 per cent. Since the formation of eight types instead of one may be the result of taking into account, as differentiating aspects, behavior which is of no importance it may be that the type resulting from a combination of the eight has established itself as a sequence in the culture of Connecticut. (3) The conclusion reached as to the transactions including instructions to charge, types 13-16, is the same as that reached as to types 29-32 and 37-40. If types 13-16 be grouped, payments of time notes by instructions on the day of maturity may be sequential. The same is true of the group composed of types 13 and 14. (4) The frequency, 46 per cent, for types 5 and 6, transactions for the liquidation of time notes by check on the day of maturity, shows that a transaction of one or the other type is sequential. While the study does not indicate

29.	Dis.	Cr.	Sec.	Nc.	Deb-cl.		1.33
30.	Dis.	Cr.		Nc.	Deb-cl.		3.12
31.	Dis.	Cr.	Sec.		Deb-cl.		.77
32.	Dis.	Cr.			Deb-cl.		1.80
37.	Dis.	Cr.	Sec.	Nc.	Deb-cl.	Nc-Deb.	.59
38.	Dis.	Cr.		Nc.	Deb-cl.	Nc-Deb.	1.37
39.	Dis.	Cr.	Sec.		Deb-cl.	Nc-Deb.	.36
40.	Dis.	Cr.			Deb-cl.	Nc-Deb.	.84
53.	Dis.	Cr.	Sec.	Nc.	Ck-aft.	Deb-Ck.	.73
54.	Dis.	Cr.		Nc.	Ck-aft.	Deb-Ck.	1.71
55.	Dis.	Cr.	Sec.		Ck-aft.	Deb-Ck.	.30
56.	Dis.	Cr.			Ck-aft.	Deb-Ck.	.71
61.	Dis.	Cr.	Sec.	Nc.	Ins-aft.	Deb-Ins.	.19
62.	Dis.	Cr.		Nc.	Ins-aft.	Deb-Ins.	.44
63.	Dis.	Cr.	Sec.		Ins-aft.	Deb-Ins.	.09
64.	Dis.	Cr.			Ins-aft.	Deb-Ins.	.22
69.	Dis.	Cr.	Sec.	Nc.	Deb-aft.		.08
70.	Dis.	Cr.		Nc.	Deb-aft.		.20
71.	Dis.	Cr.	Sec.		Deb-aft.		.04
72.	Dis.	Cr.			Deb-aft.		.11
77.	Dis.	Cr.	Sec.	Nc.	Deb-aft.	Nc-Deb.	.03
78.	Dis.	Cr.		Nc.	Deb-aft.	Nc-Deb.	.07
79.	Dis.	Cr.	Sec.		Deb-aft.	Nc-Deb.	.02
80.	Dis.	Cr.			Deb-aft.	Nc-Deb.	.04

which, on the basis of experience confirmed by the ratio of secured to unsecured notes as shown by the 278 direct time notes recorded in the day study it seems that transactions of both types are sequential. If as suggested in discussing types 29-32 and 37-40, types 7 and 8, having a frequency of 19 per cent, be deemed to be a single type, then clearly a transaction of this type would be sequential. If they be regarded as distinct types it is a question whether either type 7 or type 8 is a sequence. On the basis of the judgment that time notes are usually unsecured, however, it is probable that transactions of type 8 are sequential. If transactions 5-8 be regarded as a single type then clearly transactions of this type are sequential.

In conclusion it should be noted that the study does much more than confirm the common sense judgment that each of the 4 types of transactions, 5-8, in which direct time notes are paid in full on the day of maturity by check, are established patterns or sequences regularly followed by customers when liquidating their time notes out of the checking account. By indicating the relative frequency of payments by instructions and payments by debit compared to payments by check it establishes that, until further inquiry, neither of these two modes of payment can be regarded as institutional. Consequently no transaction of types 13-16, 29-32, or 37-40, can be used as the standard in making a comparison of an actual transaction to determine its conformity to or degree of deviation from the institutions of the state. Indeed, until further inquiry any transaction of any one of these types should itself be subjected to the test of comparison with a transaction of type 6 or one of the other types in which a check is given.