LEGAL AND INSTITUTIONAL METHODS APPLIED TO THE DEBITING OF DIRECT DISCOUNTS—IV. THE SOUTH CAROLINA AND PENNSYLVANIA STUDIES

UNDERHILL MOORE AND GILBERT SUSSMAN

THE testing of the institutional method outlined in the second article of this series by its application to the cases of *Callaham v. Bank of Anderson*,[1] *Delano v. Equitable Trust Co.*,[2] and *Goldstein v. Jefferson Title & Trust Co.*,[3] requires the ascertainment of the established banking patterns as to debiting of direct discounts in the jurisdictions in which those cases were decided. In preparation for the work in South Carolina, New York, and Pennslyvania an investigation was made in Connecticut and the third article is a report of that inquiry and its results. This article reports the studies made in South Carolina and Pennsylvania in the attempt to find the sequences with which "the facts" of the *Callaham* and of the *Goldstein* cases should be compared.

THE SOUTH CAROLINA STUDY

I

The *Callaham* case was decided in 1904 and the inquiry was directed at finding the banking patterns of that time. As a result of the work in Connecticut it was resolved to study actual transactions of the period as recorded in the books of banks then in existence. During 1904 there were approximately 169 banks in South Carolina engaged in commercial banking. In April 1930, when this investigation was made, of these 169 approximately 71 were still in business as independent banks, 13 were branches of other banks, 7 had merged with or had been absorbed by the 71, and 2 had merged with other commercial banks which were in existence in April 1930.[4] There was therefore a likeli-

[1] 69 S. C. 374, 48 S. E. 293 (1904).

[2] 110 Misc. 704, 181 N. Y. Supp. 852 (Sup. Ct. 1920).

[3] 95 Pa. Super. Ct. 167 (1928).

[4] There were 23 national banks doing business in South Carolina in 1904. REPORT OF THE COMPTROLLER OF THE CURRENCY, 1904, Vol. 1, 674. There were 146 state and private banks doing a commercial banking business during the same year. REPORT OF THE COMPTROLLER-GENERAL TO THE GENERAL ASSEMBLY FOR THE FISCAL YEAR 1904 (Columbia, S. C., 1905) Pt. II Table No. 19, facing p. 198, Table No. 20, pp. 199-200. The Comptroller-General enumerates one additional private bank but it probably was not engaged in commercial banking. *Ibid.;* RAND MCNALLY BANKERS DIRECTORY, JULY 1904. *Rand McNally Bankers Directory* (July 1904) lists as banks 3 mercantile companies. Since they did not submit reports to the Comptroller-General in 1904 and did not subsequently appear in the report

hood that the records of 1904 and the officers of that period of some of these 93 banks could be found at the 86 banking houses in which business was conducted at the time of the investigation. It was decided that 20 of the 93 banks would provide a sufficient sample. 4 of the 20 were allotted to Charleston and Columbia, 2 each, because of the size of these cities. The remaining 16 were to be scattered as widely as possible throughout the state. It was possible to secure adequate introductions to 20 banks which met these requirements. The investigation was conducted by both writers; some of the banks were visited by both writers and all by the junior of them.

In 11 of the 20 banks an examination of bank records was made. In the other 9 either the records were unavailable or the bank was unwilling to permit their examination. The 11 banks were in 8 of the 43 counties in the state, Darlington and Marlboro in the northeast, Georgetown and Charleston in the southeast, Richland in the center, and Laurens, Abbeville, and Aiken in the west. 2 of the banks were in Charleston, in 1900 a city of 55,000, and 2 in Columbia, whose population was 21,000, the only towns in the state then having a population of over 12,000. 6 were in towns which in 1900 had between 1,929 and 4,138 inhabitants. 1 was in a town of 704 people.[5]

In 9 banks the books examined were the discount register and the individual ledger. In 2 of these the discount tickler and in 1 the liability ledger were also inspected. In the remaining 2 the discount register was unavailable. In 1 of these the discount tickler and the individual ledger were used; in the other the liability ledger and the individual ledger. The dates of the records ranged from 1900 to 1909. Thus the notes traced at 1 bank (No. 1) were discounted and paid during 1900, at 2 (Nos. 2 and 3) during 1900-01, at 3 (Nos. 4, 5, and 6) during 1901, at 1 (No. 7) during 1901-02, at 1 (No. 8) during 1903, at 1 (No. 9) during 1906 and 1908, at 1 (No. 10) during 1907, and at 1 (No. 11) during 1908-09. The difference in dates was made neces-

of the newly created State Banking Department which purported to state the condition of all the state banks in South Carolina it is probable that they were not conducting a commercial banking business. REPORT OF THE COMPTROLLER-GENERAL, *supra;* ANNUAL REPORT OF THE STATE BANK EXAMINER OF SOUTH CAROLINA, 1907. *Rand McNally Bankers Directory* (July 1904) lists 11 additional state banks. 6 of these were organized during the year 1904, 4 during 1903, and 1 in 1902. Since they did not submit reports to the Comptroller-General in 1904 it is probable that they had not yet begun business.

Information as to the number of banks in operation in 1904 which were in business in April, 1930, was obtained by examination of the REPORTS OF THE STATE BANK EXAMINER OF SOUTH CAROLINA (1907-1929); REPORTS OF THE COMPTROLLER OF THE CURRENCY (1904-1929); RAND MCNALLY BANKERS DIRECTORY (July 1904, January 1905, January 1928, and January 1929).

[5] THIRTEENTH CENSUS OF THE UNITED STATES, 1910, Vol. III, 649.

sary because records for the same period were not available.

Only notes paid in full and discounted by persons who were customers at the time of discount and at the date of maturity were listed by the investigator. In 6 banks the notes recorded were the direct time notes of the maker. In 5 receivables may have been included. In 3 of these an attempt was made to limit the notes to direct notes but it was not always possible to determine from the records whether the note was a direct note or a receivable. In the other 2, the records offered no means of distinguishing a direct note from a receivable. No attempt was made to select particular notes within the class for which a search was being made. Beginning at some convenient point each note was examined in order and, if the borrower were a customer at maturity and the note were paid in full, was listed.

In each of the 11 banks an officer was interviewed. The investigator sought the information necessary for the interpretation of the records and also made inquiry as to some of the various differentiating aspects of the several discount transactions. In 9 instances the bank officer interviewed was an officer of the bank during the period covered by the records examined and had been connected with the bank up to the time the investigation was made. In the 2 remaining the officers became associated with the bank at some subsequent date, one shortly after 1908, the date of the records examined at his bank. The other was intelligently interested in his business and the inquiry, and confidently stated, on the basis of hearsay evidence, what the practice was in 1900-1905. Certain of the more important items of information obtained during these interviews were subsequently confirmed by correspondence with each of the 11 banks. Some of these items were also confirmed by correspondence with 11 other banks doing business in South Carolina in 1904 and by correspondence between the Secretary of the South Carolina State Bankers' Association and 25 other banks in existence in 1904.

The records examined in each case were offered to the investigator as the records of the bank and were taken from a storage room or vault. They disclosed the name of the bank, the year, and the kind of transactions recorded. The records were sufficiently complete to permit the successful prosecution of the inquiry. Though the records were not identical it was possible in each bank to find out which notes had been paid in full and whether or not payment had been made out of the customer's checking account. It is believed that the records are comparable despite the fact that they were for different years (1900-1909) since the oral inquiries and correspondence indicate that there were no changes in the relevant banking practice between 1900 and 1909. The fact that in 5 of the banks the transactions recorded may include receivables as well as direct time notes of customers is not considered objectionable. It is judged to be extremely unlikely that the manner in which or the day upon which time notes were paid would depend upon whether the note were a direct time note or a receivable. While the statements made in the oral interviews were based upon recollection as to the practice of twenty-five to thirty years ago, the fact that the answers of each of the 11 bank officers disclosed a continuous practice from the beginning of his experience to the present day, that the subsequent correspondence with their banks also disclosed a practice unchanged during that period, that the answers of the 11 given both in interview and in correspondence are in complete accord in every particular, and that the answers secured by correspondence from the two other groups of banks not only are in complete accord with one another but also correspond point for point with the answers of the 11 banks is strong evidence of the reliability of the answers. Consequently it is believed that the data obtained from the books and records of each of the 11 banks as well as the answers received during the interviews at each of them are reliable and comparable.

First, the answers received together with certain inferences drawn from the manner in which the books were written up will be reported in summary.

(1) A notice of prospective maturity was and is invariably sent to the customer within the two weeks prior to the maturity of the customer's direct time note.

(2) Before, during and after 1904 there were two ways in which direct and receivable time notes were paid: by the customer paying cash or endorsing to the bank the check of a third person; by the customer's applying the balance of his checking account at the discounting bank. Payments in cash or by the checks of third persons happened very frequently, although not quite as often as payments out of the checking account.

(3) Before, during, and after 1904 the payments out of the checking account were always effected by the customer delivering to the bank his check drawn on his account with it. (4) They were almost never made by the customer giving instructions to the bank to debit his checking account. (5) They were never effected by the bank, which had received neither the customer's check nor his instructions to charge, making a debit entry in his account. Unilateral application of the checking account balance to the note is a mode of liquidation unknown in South Carolina in 1904 and almost unknown today.

The books and bookkeeping methods of the 11 banks confirm the answers that payments out of the checking account were effected by means of checks and neither by instructions nor by debit entries not preceded by instructions or check. The individual ledgers always contained columns for the entry of credits and debits. In some cases these columns were headed "deposits" and "checks." In some these headings did not appear but an additional column was provided for a description of the credits and debits. In still others there were both the headings and the additional column. If the books were of a type which contained a column for the description of entries the words practically always appearing in this column were "deposit" or "check;" the only other word observed in this column was "exchange." If the books were of the type which did not contain this column but had the columns headed "deposits" and "checks" no words except "exchange," and in single instances in one bank "note" and "acceptance," ever appeared in the "checks" column. No entry unaccompanied by some descriptive word was ever made in the column headed "checks" or opposite the word "check" in the column for descriptions of entries unless the entry was for the amount of a check. It was explained that "exchange" was used to indicate that the entry was not for the amount of a check but for the amount of the "exchange" charged for collecting an item on some other bank. The officer of the bank who personally kept the records in which the words "note" and "acceptance" were observed explained that such words were used to indicate that an entry was made for the amount of a note or acceptance which the customer had instructed the bank to charge and for which the bank, therefore, had no voucher in the form of a check. It thus appears that debit entries were never made except upon a check unless an explanation of the debit was also entered; that the only common explanatory entry was "exchange;" that explanatory entries indicating that a debit entry was for the amount of a note in payment of which the bank had received the customer's instructions to charge instead of his check were very rare; and that debit entries not based upon the customer's checks or instructions were not made.

The results of the study of the books are reported in the following tables. 333 transactions in which time notes of checking account customers were paid in full were traced from discount to payment. These 333 transactions were tabulated. Table I presents the results of this tabulation. Table III presents a tabulation of 21 transactions in each bank.[6] In Tables II and IV percentages are used in lieu of the number of transactions in Tables I and III, respectively. The striking similarity of the totals of Tables I and III expressed in percentage to the average percentage in Tables II and IV indicates that in none of the banks

[6] An equal number of the transactions in excess of 21 were stricken from the top and from the bottom of the original list of transactions traced at each bank. If the number in excess were uneven the extra odd transaction was taken from the bottom.

TABLE I

No. of Bank	Year of Records	No. of Notes	Payments out of the Checking Account — Account Sufficient: Before Maturity	At Maturity	After Maturity	Unclassified	"Payments" out of the Checking Account — Account insufficient or overdrawn: Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account Sufficient: Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account insufficient or overdrawn: Before Maturity	At Maturity	After Maturity	Unclassified	Payments in part out of the Checking Account — Account not sufficient: Before Maturity	At Maturity	After Maturity	Unclassified
1	1900	21	3	1	1						1		3		2	2	3				4	1
2	1900-01	40	7	3	9					1			1		4	1	8	2	1	3		
3	1900-01	28	4	15	1													8				
4	1901	41	7	7	11			1	1		4		1		2		5		1	1		
5	1901	26	2	10	3			1	1						2	4	3					
6	1901	43				15				2				4				18				4
7	1901-02	30	8	1	7						2		1	1	6		2		1		1	
8	1903	32	14	1	9				1		3				3		1					
9	1906, 1908	24				14								2				7				1
10	1907	23	3	12	5													2		1		
11	1908-09	25	4	4	7						1		2		3	2	2					
Totals		333	52	54	53	20	—	2	3	3	11	—	8	7	22	9	21	37	3	5	5	6
Percentage			15.60	16.20	15.90	8.70		.60	.90	.90	3.30		2.40	2.10	6.60	2.70	7.20	11.10	.90	1.50	1.50	1.80

TABLE II

No. of Bank	Year of Records	Payments out of the Checking Account — Account Sufficient: Before Maturity	At Maturity	After Maturity	Unclassified	"Payments" out of the Checking Account — Account insufficient or overdrawn: Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account Sufficient: Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account insufficient or overdrawn: Before Maturity	At Maturity	After Maturity	Unclassified	Payments in part out of the Checking Account — Account not sufficient: Before Maturity	At Maturity	After Maturity	Unclassified
1	1900	14.29	4.76	4.76						4.76		14.29		9.52	9.52	14.29				19.05	4.[illegible]
2	1900-01	17.50	7.50	22.50					2.50			2.50		10.00	2.50	20.00	5.00	2.50	7.50		
3	1900-01	14.29	53.57	3.57													28.57				
4	1901	17.07	17.07	26.83			2.44	2.44		9.76		2.44		4.88		12.19		2.44	2.44		
5	1901	7.69	38.46	11.54			3.85	3.85						7.69	15.38	11.54					
6	1901				34.88				4.65				9.30				41.86				9.30
7	1901-02	26.67	3.33	23.33						6.67		3.33	3.33	20.00		6.67		3.33		3.33	
8	1903	43.75	3.13	28.13				3.13		9.38				9.38		3.13					
9	1906, 1908				58.33								8.33				29.17				4.17
10	1907	13.04	52.17	21.74													8.70		4.35		
11	1908-09	16.00	16.00	28.00						4.00		8.00		12.00	8.00	8.00					
		170.30	195.99	170.40	93.21	—	6.29	9.42	7.15	34.57	—	30.56	20.96	73.47	35.40	75.82	113.30	8.27	14.29	22.38	18.23
Average Percentages		15.48	17.82	15.49	8.47		.57	.86	.65	3.14		2.78	1.91	6.68	3.22	6.89	10.30	.75	1.30	2.03	1.66

TABLE III

No. of Bank	Year of Records	No. of Notes	Payments out of the Checking Account — Account Sufficient — Before Maturity	At Maturity	After Maturity	Unclassified	"Payments" out of the Checking Account — Account insufficient or overdrawn — Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account Sufficient — Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account insufficient or overdrawn — Before Maturity	At Maturity	After Maturity	Unclassified	Payments in part out of the Checking Account — Account not sufficient — Before Maturity	At Maturity	After Maturity	Unclassified
1	1900	21	3	1	1						1		3		2	2	3				4	1
2	1900–01	21	3	1	6					1			1		2	1	5	1				
3	1900–01	21	3	11	1													6				
4	1901	21	6	4	4			1			2				1		2		1			
5	1901	21	2	10	3			1	1						1	2	1					
6	1901	21				8				1				1				11				
7	1901–02	21	7	1	5						2		1	1	2		1				1	
8	1903	21	10	1	6				1		1				1		1					
9	1906, 1908	21				11								2				7				1
10	1907	21	3	10	5													2		1		
11	1908–09	21	2	4	6						1		2		2	2	2					
Totals		231	39	43	37	19	—	2	2	2	7	—	7	4	11	7	15	27	1	1	5	2
Percentages			16.86	18.61	16.02	8.23		.87	.87	.87	3.03		3.03	1.73	4.76	3.03	6.49	11.69	.43	.43	2.16	.87

TABLE IV

No. of Bank	Year of Records	Payments out of the Checking Account — Account Sufficient — Before Maturity	At Maturity	After Maturity	Unclassified	"Payments" out of the Checking Account — Account insufficient or overdrawn — Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account Sufficient — Before Maturity	At Maturity	After Maturity	Unclassified	Payments not out of the Checking Account — Account insufficient or overdrawn — Before Maturity	At Maturity	After Maturity	Unclassified	Payments in part out of the Checking Account — Account not sufficient — Before Maturity	At Maturity	After Maturity	Unclassified
1	1900	14.29	4.76	4.76						4.76		14.29		9.52	9.52	14.29				19.05	4.76
2	1900–01	14.29	4.76	28.57					4.76			4.76		9.52	4.76	23.81	4.76				
3	1900–01	14.29	52.38	4.76													28.57				
4	1901	28.57	19.05	19.05			4.76			9.52				4.76		9.52		4.76			
5	1901	9.52	47.60	14.29			4.76	4.76						4.76	9.52	4.76					
6	1901				38.10				4.76				4.76				52.38				
7	1901–02	33.33	4.76	23.81						9.52		4.76	4.76	9.52		4.76				4.76	
8	1903	47.62	4.76	28.57				4.76		4.76				4.76		4.76					
9	1906, 1908				52.38								9.52				33.33				4.76
10	1907	14.29	47.62	23.81													9.52		4.76		
11	1908–09	9.52	19.05	28.57						4.76		9.52		9.52	9.52	9.52					
		185.72	204.74	176.19	90.48	—	9.52	9.52	9.52	33.33	—	33.33	19.04	52.36	33.33	71.42	128.56	4.76	4.76	23.81	9.52
Average Percentages		16.86	18.61	16.02	8.23		.87	.87	.87	3.03		3.03	1.73	4.76	3.03	6.49	11.69	.43	.43	2.16	.87

was an unusual or extreme situation encountered.

An examination of these tables shows that of the 333 notes traced 8 were not paid in full notwithstanding the appearance of a debit entry for the amount of the note in the individual ledger; 118 were paid in full but in cash or by check on another bank and not from the checking account; 19 were paid in full but in part in cash or by check on another bank and only in part from the checking account; and 188 were paid in full and wholly out of the checking account. As to the 8, the ledger showed either an insufficient credit balance or a debit balance before the making of the entry. Therefore the effect of the entry would be either a part payment out of the checking account and, in the language of lawyers, a change in the form of the obligation, or simply a change in the form of the obligation. As to the 118, their liquidation did not result in the extinguishment of deposit currency of the maker. As to the 19, their liquidation did not result in the extinguishment of deposit currency of the maker in an amount equal to the amount of the note. The 188 notes represent the only transactions having the two differentiating consequences of extinguishment of deposit currency in an amount equal to the amount of the note and liquidation by means of deposit currency. Consequently which of the 80 likely possible transactions were sequences in South Carolina at the time of the *Callaham* case must be determined from these 188 transactions.

Tables V and VI present what the books disclose as to these 188 transactions. In these and the following tables no attempt has been made to weight the totals for each bank according to the total number of its transactions. It may be, though it is by no means clear, that the larger banks have a larger number of discounts than the smaller banks. But the weight which should be assigned the totals for the several banks cannot be determined. The number of discounts at each bank is unknown. And for reasons stated in the third article of this series[7] that number cannot be approximated by reference to other standards such as volume of loans or total resources. It is true that this study shows the types of transactions in larger banks to be the same as the types in the smaller; but it is also true that the frequencies for each type vary with size. How the absence of weighting affects the conclusions which may be drawn from the study is a question which will be discussed later.

---

[7] 40 YALE L. J. at 758.

TABLE V

Payments out of the Checking Account

No. of Bank	Year of Records	Number of Payments	Before Maturity	At Maturity	After Maturity	Unclassified
1	1900	5	3	1	1	
2	1900-01	19	7	3	9	
3	1900-01	20	4	15	1	
4	1901	25	7	7	11	
5	1901	15	2	10	3	
6	1901	15				15
7	1901-02	16	8	1	7	
8	1903	24	14	1	9	
9	1906,08	14				14
10	1907	20	3	12	5	
11	1908-09	15	4	4	7	
Total			52	54	53	29
Percentage			32.70	33.96	33.33	

The date of payment of 29 notes was not obtained.

TABLE VI

Payments out of the Checking Account

No. of Bank	Year of Records	Number of Payments	Percentage Before Maturity	Percentage At Maturity	Percentage After Maturity	Unclassified
1	1900	5	60.	20.	20.	
2	1900-01	19	36.84	15.79	47.37	
3	1900-01	20	20.	75.	5.	
4	1901	25	28.	28.	44.	
5	1901	15	13.33	66.67	20.	
6	1901	15				100.
7	1901-02	16	50.	6.25	43.75	
8	1903	24	58.33	4.17	37.50	
9	1906,08	14				100.
10	1907	20	15.	60.	25.	
11	1908-09	15	26.67	26.67	46.67	
			308.17	302.55	289.29	
Average			34.24	33.62	32.14	

II

The books do not reveal all the aspects of behavior nor do they disclose the arrangement of the aspects which constituted the 188 transactions reported in Table V. In order to supply the omitted aspects and to assemble them with those given it is necessary to have recourse to the interviews, correspondence, and inferences from the methods of bookkeeping, which are summarized above.[8] The resulting conclusions as to the aspects and their order appear in Table VII which details the 16 types of transactions to which the 188 transactions are found to conform. With the types of the transactions discovered, Table V made possible the computation of their frequencies which appear in Table VII.

TABLE VII

Tranaction							Frequency Percentage
5.	Dis.	Sec.	Cr.	Nc.	Ck.-on.	Db.-Ck.	33.96
6.	Dis.		Cr.	Nc.	Ck.-on.	Db.-Ck.	
5(a).	Dis.	Sec.		Nc.	Ck.-on.	Db.-Ck.	
6(a).	Dis.			Nc.	Ck.-on.	Db.-Ck.	
41.	Dis.	Sec.	Cr.	Nc.	Ck.-bef.	Db.-Ck.	32.70
42.	Dis.		Cr.	Nc.	Ck.-bef.	Db.-Ck.	
43.	Dis.	Sec.	Cr.		Ck.-bef.	Db.-Ck.	
44.	Dis.		Cr.		Ck.-bef.	Db.-Ck.	
41(a).	Dis.	Sec.		Nc.	Ck.-bef.	Db.-Ck.	
42(a).	Dis.			Nc.	Ck.-bef.	Db.-Ck.	
43(a).	Dis.	Sec.			Ck.-bef.	Db.-Ck.	
44(a).	Dis.				Ck.-bef.	Db.-Ck.	
53.	Dis.	Sec.	Cr.	Nc.	Ck.-aft.	Db.-Ck.	33.33
54.	Dis.		Cr.	Nc.	Ck.-aft.	Db.-Ck.	
53(a).	Dis.	Sec.		Nc.	Ck.-aft.	Db.-Ck.	
54(a).	Dis.			Nc.	Ck.-aft.	Db.-Ck.	

In reading Table VII it should be noted:

(1) The 16 types of transactions appearing in Table VII include either *check-before, check-on,* or *check-after.* In each of the 188 transactions payment was made by the customer delivering to the bank his check on his account with it.[9]

(2) In consequence of the fact that in no one of the 188 transactions was payment made by the customer giving the bank instructions to charge the note or by the bank making a debit entry not preceded by instructions or check[10] no type of transaction in which *instructions-before, instructions-on, instructions-after, debit-opening, debit-close, debit-after,* or *notice-debit* is an aspect is enumerated in Table VII.

(3) No type of transaction in which *hold* is an aspect appears in Table VII. In no one of the 188 transactions was a hold for the amount of the note placed against the customer's account on the morning of the day of maturity. It is inconceivable that such a device was used by the 11 banks in which debit entries (not preceded by instructions or check) were unknown. The hold is a device employed by banks whose regular practice is

[8] See p. 931, *supra.*

[9] See p. 931, *supra.*

[10] See p. 931, *supra.*

to make a debit entry for the amount of the note at the close of business on the day of maturity in situations in which prior to or on the day of maturity the bank has neither agreed to renew, nor received payment in cash, by check on another bank, by the customer's check on the bank, or by his instructions to charge. The hold is used in place of a debit entry (not preceded by instructions or check) at the opening for business on the day of maturity. A hold differs but little from such a debit. Checks presented against the account after *hold* or *debit-opening* for more than the amount by which the balance exceeds the amount of the hold or debit are not "paid" by the paying or bookkeeping departments as a matter of regular practice and routine. They are referred to an officer whose decision to pay or not to pay is, in both cases, determined by the same considerations.[11]

(4) *Notice* appears in each of the 8 types of transactions in which payment is made on or after the day of maturity and in 4 of the 8 types in which payment is made before maturity. A notice was sent in every transaction in which payment was made either on or after and it is judged in some but not in all in which payment was made before the day of maturity. Payment before maturity was sometimes made before notice was sent.[12]

(5) *Discount* is the initial aspect of each of the 16 types of transactions in Table VII to which the 188 transactions tabulated in Table V conform. Each of the 188 began with a loan upon or a discount of a time note of a customer.[13]

(6) 8 of the 16 types of transactions in Table VII include the aspect of *security* and 8 do not. That in some of the 188 transactions of Table V the notes were secured and that in others they were not is judged from experience. This judgment is amply confirmed by the examination of the records of 7 of the 11 banks.[14]

[11] These considerations are the same as those which guide the officer in the case of overdrafts. Possibly the probability of payment is somewhat greater in the case of a hold than in the case of a debit at the opening for business.

[12] See p. 931, *supra*.

[13] See p. 932, *supra*.

[14]

TABLE VIII

Number of Bank	Number of Notes	Secured	Unsecured
1	21	11	10
2	40	20	20
3	28	8	20
4	41	24	17
5	26	7	19
10	23	4	19
11	25	4	21
Total 7	204	78	126
Percentage		38.24	61.76

(7) In Table VII are included 8 types of transactions in which *credit* is an aspect and 8 new types of transactions (5(a), 6(a), 41 (a), 42 (a), 43 (a), 44 (a), 53 (a), and 54 (a))—not included in the original list of 80 likely possible transactions—in which *cash* appears. *Cash* refers to the receipt by the customer of cash or some form of bank credit other than checking account credit. The judgment that *credit* was an aspect of some and *cash* an aspect of others of the 188 transactions is confirmed by observation of the records.[15]

(8) The aspects of *security, credit, cash,* and *notice* were observed among the aspects making up the 188 transactions appearing in Table V. But the frequency of each of these aspects and of *notice* in the 52 transactions in which payment out of the checking account was made before the day of maturity is unknown. Consequently the frequency of each of the 16 types of transactions in Table VII cannot be computed. It is necessary therefore to state frequencies for groups of types of transactions.

There can be no doubt that the class of transactions beginning with the discount of or loan upon the time note of a customer and ending with payment in full out of the checking account occurred with sufficient frequency so that one or more of the 16 types of transactions to which the transactions of this class conformed may have been sequences.

Also there can be no doubt that the transactions of the 16 types of Table VII are, with appropriate qualifications in respect of amount, in institutional relationship with any sequential transaction in the deposit currency field whatever. In each of the 188 transactions conforming to the 16 types in Table VII the note was discounted for one who was already a customer, that is to say, the discount transaction followed another transaction in the deposit currency field. In view of the discount which followed there is every reason to believe the preceding transaction was itself a sequential transaction of any content whatever except in respect of amount. In each of the 188 transactions payment was effected by the customer drawing and delivering to the bank his check on it for the amount of the note. It is therefore concluded that customers did not thereafter draw checks for more than the amount of the reduced credit balance. But there is no reason to believe that payment of the notes in any way affected the content, except as to amount, of the transactions

15 TABLE IX

Number of Bank	Number of Notes	Credit	Cash
2	40	34	6
8	32	26	6
Total 2	72	60	12
Percentage		83.33	16.67

which followed the 188 transactions. It is judged therefore that the transactions which followed were sequential transactions within the deposit currency field having any content whatever except payment or transfer of a sum in excess of the credit balance remaining after the debit entry for the amount of the check.

III

It is believed that the findings presented in Tables I, II, and VII as to the happening and frequency of the 333 transactions of the 11 banks may be accepted as descriptive of the culture of the state in 1904 in respect of the liquidation of direct discounts. First, the 11 banks were 6.51 per cent of the 169 banks then doing business in the state. Secondly, they were widely scattered and in towns fairly representative of South Carolina towns. Thirdly, it is believed that 333 transactions are a sufficiently large sample to disclose the several patterns and to yield significant percentages. Fourthly, except as to frequency, the conclusions from the studies at each bank are identical with the conclusions from the studies at the others. Fifthly, the frequency data for banks 3, 5, 9, and 10 located in Charleston and Columbia show a higher precentage of checking account payments and a higher percentage of payments on the day of maturity than in the others. The fact that these 4 urban banks were included among the 11 doubtless results in over-weighting their frequency data. It is judged that the distortion which results tends to obscure the peculiarities of South Carolina banking patterns disclosed by the tables.

A convincing reason for taking the conclusions presented in Tables I, II, and VII to be descriptive of the culture of the state is that independent judgment is in accord with them. (1) This is true in respect of the conclusion that there was a large percentage of non-checking account payments. In South Carolina in 1904 the business of extending credit was conducted by merchants as well as by banks. The lien merchants' advances, if not in goods sold on open account, were in cash. Similarly the banks' advances to their borrowers very often were in cash. The Report of the Comptroller of the Currency for 1899 [16] shows

[16] REPORT OF THE COMPTROLLER OF THE CURRENCY, 1899, Vol. I, 484-492: Ratio of Borrowers to Depositors in National, State, and Private Commercial Banks reporting to the Comptroller of the Currency.

	Number of Borrowers	Number of Depositors
Connecticut	40.28	100
New York	45.63	100
Pennsylvania	42.87	100
South Carolina	122.95	100
Vermont	99.56	100

an excess of bank borrowers over depositors thereby indicating that banks must have made many advances in currency. Kinley[17] found that in South Carolina the percentage of deposits in banks in the form of checks and other credit instruments was less than in any other state in the Union. Thus with currency a considerable part of the medium of exchange it is to be expected that even borrowers with checking accounts would very often pay their notes in cash. (2) This is true in respect of the conclusion that payments made out of the checking account were not effected by the bank's debiting without having received the customer's check. Since so many notes, even of customers, were not paid out of the checking account at all and indeed since so many borrowers were not customers it is very unlikely that banks would apply the checking account credit of a customer in payment of his note without his consent; whereas in a community in which lending is confined to customers and in which payments are almost always made by applying the checking account balance on the day of maturity it may seem to both bank and customer that the application of the account by the making of a debit entry without the customer's consent is a procedure only formally different from a debit entry upon receipt of the customer's check. (3) This is true as respects the conclusion that payments were made before or after the day of maturity as often as on the day of maturity. In a community as predominantly agricultural as South Carolina was in 1904 liquidation is accomplished out of the money proceeds of crops. Whether the borrower were the farmer or the lien merchant who was financing the farmer by borrowing at the bank, the anticipated day of payment stated in the note as the day of maturity could be no more than a guess at the day upon which the crop would be sold and the note liquidated.

It is believed that the study justifies the following conclusions. (1) In South Carolina in 1904 there were no sequences corresponding to types which do not appear in Table VII. (2) The

Vermont is selected in addition to the states in which studies have been made because it is near Connecticut, New York, and Pennsylvania and like South Carolina, is a state in which agriculture is the predominant industry.

[17] KINLEY, THE USE OF CREDIT INSTRUMENTS IN PAYMENTS IN THE UNITED STATES (1910) 181-2: Percentage of Bank Deposits in the Form of Checks and other Credit Instruments.

	Percentage	Relative position among the 48 states
Connecticut	86.9	23
New York	97.7	1
Pennsylvania	89.5	15
South Carolina	78.6	48
Vermont	82.8	40

first group of transactions of types 5, 6, 5(a), and 6(a) which is differentiated by *check-on* occurred with a frequency of 33.96 per cent. It is highly probable that transactions of type 6 which includes *credit* and excludes *security* occurred with sufficient frequency to be sequential. The data, however, do not justify the statement that any one of these 4 types was or was not a sequence. If it be necessary to determine which one or more of these 4 types were sequences further inquiry is necessary. On the other hand if despite the differentiating aspects of *credit* and *security* a single type were formed by a combination of these 4 types, then transactions conforming to this single type would have been sequential. (3) The third group of transactions of types 53, 54, 53 (a), and 54 (a) which is differentiated by *check-after* occurred with a frequency of 33.33 per cent. The conclusions as to this group are identical with the conclusions as to the group consisting of types 5, 6, 5(a), and 6(a). (4) The second group comprising transactions of types 41, 42, 43, 44, 41(a), 42(a), 43(a), and 44(a), in all of which payment was made by check before the day of maturity, occurred with a frequency of 32.70 per cent. This group like the first and third would include 4 types but for the conclusion that a notice of prospective maturity was not sent in some of the transactions in which payment was made before maturity. This required the inclusion of types 43, 44, 43(a), and 44(a) in which the sending of a notice is not an aspect. Since the data do not offer any basis for estimating how many transactions there were of each of these 8 types among the 52 transactions in this group no statement can be made as to which one or more of them were sequential. If it be necessary to determine which, if any, were sequential further inquiry is necessary. If the aspect of *notice* be regarded as having no significance because in each of the 8 types of the second group payment was effected by check, and if in consequence the types which are differentiated from each other by the presence or absence of *notice* only, were consolidated, then the second group, like the first and third, would disclose 4 types. The conclusions as to these 4 consolidated types would be the same as the conclusions as to the 4 types of the first and third groups.

THE STUDY IN PENNSYLVANIA

I

The Pennsylvania study was made in March 1930. The number of commercial banks and branches within the corporate limits of the city of Philadelphia was then approximately 170. The number in the rest of the state was approximately 1325.[18] 36

[18] RAND MCNALLY BANKERS DIRECTORY, JANUARY 1930.

or 21.18 per cent of the Philadelphia banks and 47 or 3.55 per cent of the banks outside Philadelphia were visited. In the case of a bank operating branches only one of its offices was included in the sample. Of the 36 Philadelphia banks approximately one half were downtown and the remainder in the several outlying districts. In the choice of the 36 there were no factors of selection except representation from each of the districts and convenience of access. The 47 banks outside the city of Philadelphia were located in 16 of the other 66 counties of Pennsylvania. These 16 counties, the more populous in the state, were Alleghany, Westmoreland, Cambria, and Blair in the west, Perry, Lycoming, Union, Dauphin, and Northumberland in the center, and Lancaster, Lackawanna, Luzerne, Lehigh, Berks, Montgomery, and Northampton in the east. Again, in the choice of the 47 banks there were no factors of selection except geographical representation and transportation facilities.

At each bank visited answers to a list of questions were asked for and given. The following is the list of questions:

---

(1) Do you send the maker of the note a notice previous to maturity?

(2) What do you do with respect to the customer's account on the morning of the due date? That is, do you make a debit entry or place a hold or lien against the account for the amount of the note?

(3) How do you treat the customer's checks, presented on the day of maturity, which are drawn for more than the amount of the balance less the amount of the note?

(4) How often are you faced with the problem raised by question three?

(5) Approximately what percentage of the time notes which are paid in full are paid as the result of some interview with or other communication from the customer?

(6) If the customer does not communicate with you on the day of maturity or prior thereto and his balance is sufficient do you charge his unsecured note and at what time?

(7) Is your practice the same where the note is secured by collateral?

(8) Approximately what percentage of the time notes that are paid in full at maturity are paid as a result of a charge without previous instructions?

(9) Approximately what percentage of the time notes that are paid in full at maturity are paid as a result of a debit following the receipt of instructions from the customer?

(10) Approximately what percentage of the time notes that are paid in full at maturity are paid by a check drawn by the customer against his account with your bank?

(11) Approximately what percentage of the time notes that are paid in full at maturity are paid in cash or by a check drawn upon some other bank?

(12) How do you treat checks, presented after a debit has been made, which are drawn for more than the amount of the balance?

(13) How often are you faced with the problem raised in question twelve?

(14) Where notes are paid in full at maturity, do customers anticipate payment by building up their balances in advance of maturity?

Before asking the questions the investigator requested each banker interviewed to confine his answers to the direct discounts of or loans upon the time notes of customers.

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 some the discount clerk, and in a few cases both. In all instances the questions were asked and answered by word of mouth in the order in which they appear 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 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 one of these, the questions were carelessly answered. 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 following is a summary of the answers.

Question (1). All of the banks with the exception of 1 in Philadelphia and 4 in the rest of the state answered that they send a notice within the two weeks before the day of maturity. However, the 1 bank in Philadelphia which does not, within a week after the loan or discount, does send a written confirmation which includes among the aspects of the transaction which it specifies the date of maturity.

Question (2). 29 banks in Philadelphia and 46 in the rest of the state answered in the negative. 2 Philadelphia banks place a hold against the maker's account and 5 Philadelphia banks make debit entries (not preceded by check or instructions) at the opening for business on the day of maturity. 1 of the banks located outside Philadelphia places a hold against the maker's account if the note bears an endorsement.

Question (3). The 29 banks in Philadelphia and the 46 banks not in Philadelphia which answered question (2) in the negative stated that they honor checks presented on the day of maturity even though the customer's balance is thereby reduced to less than the amount of the note. The 7 Philadelphia banks which either place holds or make debit entries at the opening for business refer such checks to officers as if they were overdrafts. The 1 bank outside of Philadelphia which sometimes places a hold honors checks unless a hold has been placed, in which event the check is referred to an officer.

Question (4). 6 of the 7 Philadelphia banks which either make a debit entry or place a hold at the opening for business on the day of maturity answered that such checks are not presented very often. The other bank in Philadelphia did not answer. The one bank outside Philadelphia which sometimes places a hold answered that checks were rarely presented in situations in which a hold has been placed. Whether or not such checks are presented on the day of maturity and the frequency with which they are presented are probably unknown to any officer or employee in a bank which neither makes a debit entry nor places a hold at the opening for business on the day of maturity. It was judged therefore that the answers of those of the 75 banks which answered the question were not reliable. No statement of these replies is made in the summary.

Question (5). The average of the answers of the 34 Philadelphia banks is 80 per cent. 2 banks did not answer this question. The answers of the 47 banks outside Philadelphia averaged 95 per cent.[19]

Question (6). 32 Philadelphia banks answered affirmatively. 5 of these make the debit entry at the opening for business and

[19] Questions (5), (8), (9), (10), and (11) 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.

Some of the estimates were stated in non-numerical terms, such as "most," "few," "practically all," etc. In such cases 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 relative size of the subdivisions of a group. Numerical symbols were given the non-numerical answers in the light of the relevant answers to questions (8), (9), (10), and (11). Thus the word "few" was valued at 2 where the other answers were "over 90," "5," and "few" and at 5 where the other answers were "about 20," "75," and "practically none."

27 do so at the close of business. 4 banks do not make debit entries without either check or instructions. Of the 47 banks outside Philadelphia 23 answered that they make debit entries not preceded by check or instructions at the close of day, 4 that they do sometimes, and 20 that they do not.

Question (7). 9 Philadelphia banks answered that secured notes are debited without check or instructions. Of these, 1 makes the debit at the opening and 8 at the close of business. 23 banks do not charge secured notes and 1 bank has no secured time notes. 44 of the 47 banks in the remainder of the state do not charge secured notes, 2 charge at the close of day, and 1 does sometimes.

Question (8). 35 of the 36 Philadelphia banks answered this question. The average of the answers is 22 per cent. The answers of the 47 banks outside Philadelphia average 5 per cent.

Question (9). The average of the answers of 35 Philadelphia banks is 20 per cent and of the 47 banks outside Philadelphia is 13 per cent. 1 bank in Philadelphia did not answer this question.

Question (10). The answers of 35 Philadelphia banks average 56 per cent. This question was not answered by 1 bank. The average of the answers of the 47 banks in the remainder of the state is 74 per cent.

Question (11). The averages of the answers of the 35 Philadelphia banks which answered the question and of the 47 other banks are 2 per cent and 8 per cent respectively.

Question (12). The replies of the banks both in Philadelphia and in the remainder of the state were that after a debit entry has been made for the amount of a note, whether or not made following the receipt of a check or instructions, checks presented against the customer's account for more than the credit balance in the individual ledger are not honored and that until a debit entry is made checks are honored.

Question (13). The answers of both the Philadelphia banks and the banks outside Philadelphia indicate that checks for more than the amount of the checking account balance remaining after a debit entry has been made are rarely if ever presented. Thus of the 36 Philadelphia banks 27 answered that such checks are rarely, infrequently, or seldom presented and 4 banks answered that no such checks are presented. 5 banks did not answer. "Infrequently," "rarely," "seldom," or "not very often" was the answer of 33 of the 47 banks outside Philadelphia. 9 others stated that no such checks are presented and 1 bank stated that such checks are presented quite often. 4 banks did not answer.

Question (14). 27 of the 36 Philadelphia banks stated that balances are generally built up in anticipation of payments; 4 of these were less certain in respect of small customers. 3 of the 36 answered in the negative while 6 did not answer. Of the 47 banks not in Philadelphia 21 answered that balances are generally built up in anticipation of payment; 4 that they sometimes are; and 2 that they are where payment is made by check. In these last 2 banks about half of their notes are paid in cash or by check on another bank. 15 banks stated that balances are not built up, and 1 that the deposit and payment are made at the same time.

II

The conclusions drawn from the inquiry are presented in Table X.

TABLE X [20]

	Transaction							Frequency Philadelphia	Percentage Pa. outside of Philadelphia
1	Dis.	Sec.	Cr.	Nc.	Hold.	Ck.-on.	Db.-Ck.	1.40	.00
2	Dis.		Cr.	Nc.	Hold.	Ck.-on.	Db.-Ck.		
5	Dis.	Sec.	Cr.	Nc.		Ck.-on.	Db.-Ck.	54.94	75.57
6	Dis.		Cr.	Nc.		Ck.-on.	Db.-Ck.		
7	Dis.	Sec.	Cr.			Ck.-on.	Db.-Ck.	.71	5.34
8	Dis.		Cr.			Ck.-on.	Db.-Ck.		
9	Dis.	Sec.	Cr.	Nc.	Hold.	Ins.-on.	Db.-Ins.	3.83	.00
10	Dis.		Cr.	Nc.	Hold.	Ins.-on.	Db.-Ins.		
13	Dis.	Sec.	Cr.	Nc.		Ins.-on.	Db.-Ins.	16.37	11.96
14	Dis.		Cr.	Nc.		Ins.-on.	Db.-Ins.		
15	Dis.	Sec.	Cr.			Ins.-on.	Db.-Ins.	.71	1.94
16	Dis.		Cr.			Ins.-on.	Db.-Ins.		
17	Dis.	Sec.	Cr.	Nc.		Db.-op.			
18	Dis.		Cr.	Nc.		Db.-op.		10.40	.00
21	Dis.	Sec.	Cr.	Nc.		Db.-op.	Nc.-Db.		
22	Dis.		Cr.	Nc.		Db.-op.	Nc.-Db.		
25	Dis.	Sec.	Cr.	Nc.	Hold.	Db.-Cl.			
26	Dis.		Cr.	Nc.	Hold.	Db.-Cl.		.49	.00
33	Dis.	Sec.	Cr.	Nc.	Hold.	Db.-Cl.	Nc.-Db.		
34	Dis.		Cr.	Nc.	Hold.	Db.-Cl.	Nc.-Db.		
29	Dis.	Sec.	Cr.	Nc.		Db.-Cl.			
30	Dis.		Cr.	Nc.		Db.-Cl.		9.71	3.96
37	Dis.	Sec.	Cr.	Nc.		Db.-Cl.	Nc.-Db.		
38	Dis.		Cr.	Nc.		Db.-Cl.	Nc.-Db.		
31	Dis.	Sec.	Cr.			Db.-Cl.			
32	Dis.		Cr.			Db.-Cl.		1.43	1.23
39	Dis.	Sec.	Cr.			Db.-Cl.	Nc.-Db.		
40	Dis.		Cr.			Db.-Cl.	Nc.-Db.		

It will be noted that the table does not include any transaction

[20] 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 obviously the material does not justify such precise estimates.

in which liquidation is effected either before or after the day of maturity. The questions made no inquiries as to the fact, the modes, and the frequencies of liquidations out of the checking account before or after the day of maturity. Experience indicates that in industrialized areas, such as Pennsylvania and Connecticut, 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. The results of the South Carolina study which showed as many liquidations before as on and after the day of maturity may be accounted for by the fact that the income of the state in 1904 was almost wholly derived from the proceeds of a few crops and was received at the uncertain time of sale after harvest.[21] As to payments after maturity the general discussion of modes of liquidation which invariably accompanied the answering of the questions led the investigator to the conclusion that the patterns regularly followed in Pennsylvania in the liquidation of direct discounts out of the checking account do not include patterns in which liquidation is effected after maturity. The answers elicited by the questions are wholly consistent with this conclusion. Consequently it is judged that no one of the 40 likely possible transactions 41-80, in which liquidation is effected out of the checking account before or after the day of maturity, is a sequence in Pennsylvania; and that the frequency of the group is so small that their exclusion from consideration will not materially alter the percentage estimates of the remaining 40. Table X therefore does not include these types.

The answers to questions (1) and (2) disclose that every bank which places a hold against its customer's account or makes a debit entry (not preceded by check or instructions) for the amount of the note at the opening for business also sends a notice of prospective maturity. Types of transactions 3-4, 11-12, 19-20, 23-24, 27-28, and 35-36 in which *hold* or *debit-opening* is not preceded by *notice* do not happen. Consequently those transactions do not appear in Table X.

It will be observed that the questions did not directly inquire whether the proceeds of the loan upon or discount of the customer's time note were credited to his account, received in cash, or received in some form of bank credit other than checking account credit. The inquiry does show, however, that the discounts were made for customers, and furthermore the answers to question (11) indicate that deposit currency (checking account credit) is the principal currency of Pennslyvania. The

[21] See p. 941, *supra*.

judgment that discount transactions in which a customer receives the proceeds in cash or some form of bank credit other than checking account credit are so infrequent that an investigation of their frequency is not necessary is confirmed by the findings of Kinley.[22] Table X does not, therefore, include any transaction in which credit does not appear.

There was no investigation of the practice of sending notice of debit in instances in which a debit entry was made though the customer's check or instructions to debit were not received. In Table X, therefore, types of transactions 17-18, 21-22, 25-26, 29-34, and 37-40, differentiated from the remaining by the aspect of *debit-opening* or *debit-close*, must be arranged in groups, two types of each group terminating with *notice-debit* and two with some other aspect.

Similarly, the types of transactions in Table X must be arranged in groups because of the absence of estimates of the ratio of secured to unsecured time notes. The answers to question (7) show that time notes are sometimes secured but the study affords no evidence of the frequency of *security*.

In computing the frequency percentages appearing in Table X no attempt has been made to weight the answers of the banks according to the total number of transactions occurring at each bank. The number of transactions in each is unknown and, as pointed out in the third article of this series,[23] the number cannot be approximated by reference to other standards such as volume of loans or total resources. Nor does there appear any reason for weighting them. The study, as in Connecticut, offers no evidence that the types of transactions which happen in large banks, which might be thought to have more transactions, differ from the types of 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.

In computing the frequency of aspects which, preceded or followed by other aspects, constitute the transactions conforming to the types of Table X 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 question (10) (which showed the frequency of check payments) of those banks which send out notices were totalled and divided by the number of banks answering question (10).

The class of transactions beginning with the discount of or loan upon the time note of a customer and conforming to the 28 types of Table X is unquestionably so large that any one of the

[22] *Supra* note 17.
[23] *Supra* note 7.

28 types which has a sufficient frequency may be a sequence.

The transactions of the 28 types of Table X are, with appropriate qualifications in respect of amount, in institutional relationship with any sequential transaction in the deposit currency field whatever. In each of the transactions conforming to the 28 types in Table X the note was discounted for one who was already a customer, that is to say, the discount transaction followed another transaction in the deposit currency field. In view of the discount which followed there is every reason to believe the preceding transaction was itself a sequential transaction of any content whatever except in respect of amount. It is concluded from the answers to question (3), (4), (12), and (13) that after the making of a debit entry, whether preceded by instructions or check, customers do not draw checks for more than the amount of the reduced credit balance. But there is no reason to believe that payment of the notes in any way affected the content, except as to amount, of the transactions which followed transactions of the 28 types. The answers to questions (3), (4), (12), and (13) support this conclusion also. It is judged, therefore, that the transactions which followed were sequential transactions within the deposit currency field having any content whatever except payment or transfer of a sum in excess of the credit balance remaining after the debit entry for the amount of the check.

III

It is believed that the answers of the banks interviewed in Philadelphia are an adequate sample which may safely be taken as representative of the answers which would have been received had all the banking offices in the city been visited. The sample was 21.18 per cent of the number of banks in the city; it contained 36 units, a sufficient number for significant percentages; its units were scattered and selected at random; the answers of the 36 indicated nothing which would suggest that the sample, or any group of its units taken as a sample, was not representative of all the banks of the city.

The application of the same standards to the sample of the state (excluding Philadelphia) would lead to the conclusion that that sample also may be taken as representative, were it not for the fact that the 47 banks visited are but 3.55 per cent of the number of banks in the state without that city. If the sample, or any grouping of its units, disclosed the happening or frequency of transactions which either experience or the results in the comparable state of Connecticut indicated were improbable doubtless a larger sample would be necessary. In fact, it appears (1) that every transaction which Table X shows happened in Pennsylvania (excluding Philadelphia) happened in Connecticut;

(2) that the likely possible transactions which were found not to happen in Pennsylvania (excluding Philadelphia) are either those which were found not to happen in Connecticut or those which were found to happen so infrequently as not to present the possibility of their being sequences; (3) that the pair of transactions which Table X shows occurs most frequently in Pennsylvania is the pair which occurs most frequently in Connecticut and that the pairs of transactions which Table X shows do not occur in Pennsylvania occur very infrequently in Connecticut; (4) that the frequencies of check (80.91 per cent), instructions (13.90 per cent), and debit (7.73 per cent) payments in Pennsylvania are substantially the same as in Connecticut and that the order of frequency is the same in both Pennsylvania and Connecticut.[24]

The estimates of the frequency of the types of transactions in Table X are believed to be reliable indications of relative frequency. The fact that the answers of the several banks are not weighted in no way lessens the significance of the percentage frequencies.[25] Secondly, the answers to questions (8), (9), (10), and (11) are believed to be reliable estimates. The frequency percentages reached upon the basis of numerous estimates, 35 in Philadelphia and 47 in the rest of Pennsylvania, have the value which may be assigned to the result of integration of multiple opinions. Thirdly, their reliability is not lessened because some of the estimates were expressed in non-numerical terms. This difference in symbolization is considered to be of no consequence and has been met by a substitution of percentage equivalents for the non-numerical answers. Fourthly, the reliability of the frequencies appearing in Table X for pairs of types of transactions is as great as the reliability of the estimates of the frequencies of the constituent aspects of the transactions. No question can possibly be raised as to the answers to questions (1), (2), (6), and (7). 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.

The fact that sixteen months elapsed between the decision of the Superior Court in *Goldstein v. Jefferson Title & Trust Company* and the making of the investigation does not preclude taking its results to be sufficient evidence of the relevant patterns and their frequency in the culture of Pennsylvania at the time of the decision. There was nothing disclosed by the inquiries which indicated that the period 1928-1930 was one of rapid change in checking-account patterns. Experience sustains the judgment

[24] See the third article in this series, 40 YALE L. J. at 773, Table I.

[25] See p. 949, *supra*.

that change in patterns of the kind under discussion is slow.

Which then of the likely possible transactions which appear in Table X are sequences in Pennsylvania? (1) The overwhelming preponderance both in Philadelphia and the remainder of the state of transactions conforming to types 5 and 6 as compared to transactions of any other type establishes that transactions of either one or the other type is a sequence. While the frequency of transactions of type 6 is not disclosed it is stated unhesitatingly that they are sequential. Experience, confirmed by the results in Connecticut [26] and South Carolina [27] indicates the much greater frequency of unsecured as compared to secured time notes. The high frequency of the pair suggests that transactions of type 5 are also sequential. (2) The insignificant frequency both in Philadelphia and in the rest of the state of transactions conforming to types 1 and 2, 7 and 8, 9 and 10, 15 and 16, 25, 26, 33, and 34, and 31, 32, 39, and 40 establishes that no transaction conforming to any of these types is sequential. The same conclusion is believed to be true of transactions of types 17, 18, 21, 22, 29, 30, 37, and 38 though some doubt appears because of the frequency in Philadelphia of groups of types 17, 18, 21, and 22 and of types 29, 30, 37, and 38. (3) The same conclusion cannot be reached as to transactions of types 13 and 14. The frequency of transactions of this pair of types both in Philadelphia and in the remainder of the state is such that it may be that transactions of either one or the other type may be sequential. If it be necessary to determine which, if either, of these types is a sequence further inquiry would be necessary.

Since the formation of the 28 types of transactions listed in Table X may be the result of taking into account, as differentiating aspects, behavior which is of no importance the frequency of the several types which would result from likely consolidations of the 28 likely possible types should be noted. (4) If all the likely possible transactions listed in Table X in which hold appears, types 1-2, 9-10, 25-26, and 33-34, were combined the frequency of transactions conforming to this composite type both in Philadelphia and in the rest of the state would still be so small that such transactions would not be sequential in Pennsylvania. (5) The same conclusion is probably true of transactions conforming to a single type formed by combining types 17, 18, 21, and 22, in all of which liquidation is effected by a debit (not preceded by check or instructions) at the opening for business, and of transactions conforming to a single type formed by combining types 25, 26, 33, 34, 29, 30, 37, 38, 31, 32, 39, and 40 in all of which *debit-close* is an aspect. The frequencies, in Philadelphia, of the consolidated types so formed, 10 per cent and 12

[26] See the third article in this series, 40 YALE L. J. at 768.

[27] See p. 938, *supra*.

per cent respectively, would seem to indicate that these are established patterns in Philadelphia but not in the remainder of the state. (6) Transactions conforming to a single type in which liquidation is effected by the bank without any action by the customer, formed by combining types 17-18, 21-22, 25-26, 29-34, and 37-40, in all of which either *debit-opening* or *debit-close* appears, are not sequential in Pennsylvania outside Philadelphia. The estimated frequency, 22 per cent, in Philadelphia, of transactions of this combined type indicates that they probably are in Philadelphia. (7) The same conclusions as in (6) are reached with respect to transactions of a type formed by combining all transactions, 1-2, 9-10, 17-18, 21-22, 25-26, 29-34, 37-40, in which either liquidation is effected by the bank by applying checking account credit or the first step toward such liquidation, whether or not consummated, is taken by the bank by placing a hold against the customer's account. (8) When all the types of transactions 9-10 and 13-16 in which the customer instructs the bank to charge his time note are grouped the estimated frequency, 21 per cent in Philadelphia and 14 per cent in the remainder of the state, shows transactions of this type to be sequential in Pennsylvania. (9) The same conclusion is obviously true of transactions in which *check-on* appears.

More important than the evidence of the preponderance of check payments over other modes is the conclusion that no one of the transactions in which the application of the checking account is effected by the bank without the co-operation of the customer is sequential in the state of Pennsylvania. Even if all these transactions be taken together as a single undifferentiated mode, it cannot be said that it is institutional. Consequently no transaction in which either *debit-opening* or *debit-close* is an aspect 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 type 6.