

The Depository Institutions Payments Study

A Survey of Depository Institutions for the 2007 Federal Reserve Payments Study



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Contents

EXHIBITS	7
1 INTRODUCTION	11
2 METHODOLOGY	13
2.1 Sampling	13
2.1.1 Sample Design	14
2.1.2 Sample Frame	14
2.1.3 Sample Size and Allocation.....	15
2.1.4 High-Priority Respondents.....	17
2.2 Estimation (and Imputation)	17
2.3 Reference Period	19
2.4 The Survey Instrument	20
2.5 Survey Recruitment and Participation	23
2.5.1 Contact List Development and Recruitment.....	23
2.5.2 Registration.....	23
2.5.3 Respondent Training	24
2.5.4 Survey Response	25
2.6 Data Collection and Data Management	27

2.7	Data Editing	27
2.7.1	Outlier Identification	27
2.7.2	Tracking Outliers and Revisions	28
3	SURVEY RESULTS AND NATIONAL ESTIMATES	29
3.1	Estimates and Multiple Sources	29
3.2	Check Payments	30
3.2.1	Checks Paid in 2006	30
3.2.2	Checks Paid Based on March and April Survey Data	32
3.2.3	Change in Checks Paid	34
3.2.4	“Interbank” Checks Paid	35
3.2.5	“Interbank” Checks Paid by Format Received	36
3.2.6	Change in “Interbank” Checks Paid	38
3.2.7	“On-U.s.” Paid Checks	38
3.2.8	Change in “On-U.s.” Checks Paid	39
3.2.9	Checks Returned Unpaid	40
3.2.10	Change in Checks Returned Unpaid	41
3.2.11	“Interbank” Checks Returned Unpaid	41
3.2.12	Change in “Interbank” Checks Returned Unpaid	43
3.2.13	“On-U.s.” Checks Returned Unpaid	43
3.2.14	Change in “On-U.s.” Checks Returned Unpaid	45
3.3	ACH Payments	45
3.3.1	Total ACH Payments	46
3.3.2	Change in ACH Payments	47

3.3.3	ACH Credits and Debits	48
3.3.4	Change in ACH Credits and Debits	50
3.3.5	Network ACH Payments	51
3.3.6	Change in Network ACH Payments	52
3.3.7	Direct Exchange ACH Payments.....	53
3.3.8	In-House “On-Us” ACH Payments.....	54
3.3.9	Change in In-House “On-Us” ACH Payments	56
3.4	Debit Card Payments.....	57
3.4.1	Total Debit Card Payments	57
3.4.2	Change in Debit Card Payments	58
3.4.3	Signature-Based Debit Card Payments.....	59
3.4.4	Change in Signature-Based Debit Card Payments	60
3.4.5	PIN-Based Debit Card Payments	61
3.4.6	Change in PIN-Based Debit Card Payments	62
3.5	ATM Withdrawals.....	63
3.5.1	Total ATM Withdrawals.....	63
3.5.2	Change in ATM Withdrawals	64
3.5.3	“On-Us” ATM Withdrawals.....	65
3.5.4	Change in “On-Us” ATM Withdrawals	66
3.5.5	“Foreign” ATM Withdrawals	67
3.5.6	Change in “Foreign” ATM Withdrawals	68
3.6	Distribution of Debits to Deposit Accounts by Institution Type.....	69
3.7	DDA Transaction Mix by Type of Depository Institution	69

APPENDIX A: SURVEY INSTRUMENT (*LONG FORM*) 71

APPENDIX B: SURVEY INSTRUMENT (*SHORT FORM*) 71

APPENDIX C: REGISTRATION FORM 71

Exhibits

Exhibit 1: Original Sample Frame Detail	16
Exhibit 2: Final Sample Frame Detail	18
Exhibit 3: Distribution of Registrations by Mode.....	24
Exhibit 4: Response Rate per Stratum	26
Exhibit 5: Number of Checks Paid in 2006.....	31
Exhibit 6: Value of Checks Paid in 2006	32
Exhibit 7: Average Value of Checks Paid in 2006.....	32
Exhibit 8: Number of Checks Paid.....	33
Exhibit 9: Value of Checks Paid	34
Exhibit 10: Average Value of Checks Paid.....	34
Exhibit 11: Number, Value and Average Value of Checks Paid.....	35
Exhibit 12: Number of Interbank Checks Paid.....	35
Exhibit 13: Value of Interbank Checks Paid	36
Exhibit 14: Average Value of Interbank Checks Paid.....	36
Exhibit 15: Number of Paper vs. Truncated Interbank Checks Paid	37
Exhibit 16: Change in the Number, Value and Average Value of Interbank Checks Paid.....	38
Exhibit 17: Number of On-Ups Checks Paid	38
Exhibit 18: Value of On-Ups Checks Paid.....	39
Exhibit 19: Average Value of On-Ups Checks Paid	39
Exhibit 20: Change in the Number, Value and Average Value of On-Ups Checks Paid.....	40

Exhibit 21: Number of Checks Returned Unpaid.....	40
Exhibit 22: Value of Checks Returned Unpaid	40
Exhibit 23: Average Value of Checks Returned Unpaid.....	41
Exhibit 24: Change in the Number, Value and Average Value of Checks Returned Unpaid	41
Exhibit 25: Number of Interbank Checks Returned Unpaid	42
Exhibit 26: Value of Interbank Checks Returned Unpaid	42
Exhibit 27: Average Value of Interbank Checks Returned Unpaid.....	42
Exhibit 28: Change in the Number, Value and Average Value of Interbank Checks Returned	43
Exhibit 29: Number of On-Ups Checks Returned Unpaid	44
Exhibit 30: Value of On-Ups Checks Returned Unpaid.....	44
Exhibit 31: Average Value of On-Ups Checks Returned Unpaid	44
Exhibit 32: Change in the Number, Value and Average Value of On-Ups Checks Returned Unpaid	45
Exhibit 33: Number of ACH Payments	46
Exhibit 34: Value of ACH Payments	46
Exhibit 35: Average Value of ACH Payments	47
Exhibit 36: Change in the Number, Value and Average Value of ACH Payments.....	47
Exhibit 37: Number of ACH Credits	48
Exhibit 38: Number of ACH Debits	48
Exhibit 39: Value of ACH Credits.....	49
Exhibit 40: Value of ACH Debits.....	49
Exhibit 41: Average Value of ACH Credits	49
Exhibit 42: Average Value of ACH Debits	50
Exhibit 43: Change in the Number, Value and Average Value of ACH Credits	50
Exhibit 44: Change in the Number, Value and Average Value of ACH Debits	51

Exhibit 45: Number of Network ACH Payments	51
Exhibit 46: Value of Network ACH Payments.....	52
Exhibit 47: Average Value of Network ACH Payments	52
Exhibit 48: Change in the Number, Value and Average Value of Network ACH Payments	53
Exhibit 49: Number of Direct Exchange ACH Payments.....	53
Exhibit 50: Value of Direct Exchange ACH Payments	54
Exhibit 51: Average Value of Direct Exchange ACH Payments	54
Exhibit 52: Number of In-House On-Us ACH Payments	55
Exhibit 53: Value of In-House On-Us ACH Payments.....	55
Exhibit 54: Average Value of In-House On-Us ACH Payments	56
Exhibit 55: Change in the Number, Value and Average Value of In-House On-Us ACH Payments	56
Exhibit 56: Number of Total Debit Card Payments.....	57
Exhibit 57: Value of Total Debit Card Payments	58
Exhibit 58: Average Value of Debit Card Payments.....	58
Exhibit 59: Change in the Number, Value and Average Value of Debit Card Payments.....	59
Exhibit 60: Number of Signature-Based Debit Card Payments.....	59
Exhibit 61: Value of Signature-Based Debit Card Payments	60
Exhibit 62: Average Value of Signature-Based Debit Card Payments.....	60
Exhibit 63: Change in the Number, Value and Average Value of Signature-Based Debit Card Payments.....	61
Exhibit 64: Number of PIN-Based Debit Card Payments	61
Exhibit 65: Value of PIN-Based Debit Card Payments.....	62
Exhibit 66: Average Value of PIN-Based Debit Card Payments	62

Exhibit 67: Change in the Number, Value and Average Value of PIN-Based Debit Card Payments 63

Exhibit 68: Number of ATM Withdrawals..... 63

Exhibit 69: Value of ATM Withdrawals 64

Exhibit 70: Average Value of ATM Withdrawals..... 64

Exhibit 71: Change in the Number, Value and Average Value of ATM Withdrawals 65

Exhibit 72: Number of On-U.S. ATM Withdrawals 65

Exhibit 73: Value of On-U.S. ATM Withdrawals..... 66

Exhibit 74: Average Value of On-U.S. ATM Withdrawals 66

Exhibit 75: Change in the Number, Value and Average Value of On-U.S. ATM Withdrawals 67

Exhibit 76: Number of Foreign ATM Withdrawals 67

Exhibit 77: Value of Foreign ATM Withdrawals 68

Exhibit 78: Average Value of Foreign ATM Withdrawals 68

Exhibit 79: Change in the Number, Value and Average Value of Foreign ATM Withdrawals..... 69

Exhibit 80: Summary of the Estimated Number of DDA Transactions..... 69

Exhibit 81: Distribution of DDA Transactions by Type of Institution 70

1 Introduction

This report details the methodology and findings of the *2007 Depository Institutions Payments Study* (2007 DI study). The 2007 DI study estimated the annual number and value of checks and other noncash payments and ATM cash withdrawals in the United States. Estimates from this study are based on March-April 2007 data reported by a nationally representative sample of depository institutions (DIs) including commercial banks, credit unions, and savings institutions. These data were key inputs to the estimation of national payments numbers and values for 2006.

The 2007 DI study also includes a revised estimate of the number and value of checks paid in 2003. These new estimates are based, in part, on revisions received from a number of depository institutions that participated in both the 2007 DI study and a similar study performed in 2004.

The 2007 DI study is part of an ongoing effort by the Federal Reserve System to measure and analyze trends in noncash payments in the United States. In 2001, the Federal Reserve System undertook the *Retail Payments Research Project* to estimate the annual number and value of retail payments in the United States.¹ Three studies were performed that year: the *Depository Financial Institution Check Study* (2001 DI study), the *Check Sample Study* (2001 CS study), and the *Electronic Payment Instruments Study* (2001 EP study). In 2004, DI and EP studies were repeated in order to track shifts in payments numbers and values.

The *2007 Federal Reserve Payments Study* repeats the efforts of the prior studies. As in 2001, the *2007 Federal Reserve Payments Study* consists of three studies: the *Depository*

¹ The Federal Reserve uses the term “retail” payments to describe any noncash payment besides wire transfer.

Institutions Payments Study (2007 DI study), the *Check Sample Study* (2007 CS study), and the *Electronic Payments Study* (2007 EP study).²

The following estimates from the 2007 DI study were used in the final estimates for the *2007 Federal Reserve Payments Study*:

1. Number and value of check payments.
2. Number and value of ATM cash withdrawals.
3. The percentage of ACH payments (both number and value) that are not cleared through an ACH operator (i.e., Federal Reserve or Electronic Payments Network), such as direct exchange ACH payments or in-house on-us ACH payments.
4. The distribution of DDA and NOW debits made by check, ACH, debit card, and ATM withdrawal in each market segment (commercial banks, credit unions, and savings institutions).

The final estimates for debit card payments in the *2007 Federal Reserve Payments Study* were derived entirely from the 2007 EP study.

² Global Concepts performed the DI study in 2001, 2004, and 2007 and the CS study in 2001 and 2007. Dove Consulting performed the EP study in 2001, 2004, and 2007. The 2007 CS and EP study results are available in separate reports.

2 Methodology

National estimates from the 2007 DI study were based on data reported by a stratified random sample of depository institutions. For sampling and estimation, DIs were stratified by both size and type. The samples were used to create population estimates of the number and value of payments for the size-type strata using a statistical technique called ratio estimation.

2.1 SAMPLING

Respondents selected for the study were sampled from the population of insured DIs in the United States. The population includes commercial banks, state-chartered and federally-chartered savings institutions, and credit unions. Unlike the 2004 DI study, domestic branches of foreign-owned banks were not sampled.

Most public checkable deposits (defined in section 2.1.1) are held by a relatively small number of very large DIs. As a result, the most efficient sampling method is to assign a higher sampling probability to the largest DIs. The largest DIs, therefore, were sampled with 100 percent probability. That approach resulted in a census of the largest DIs and random samples of the remaining ones. The probability of an institution being sampled decreased with size.

The very largest DIs within each institution type as well as others likely to substantially affect estimate precision were designated “high-priority” institutions. Extraordinary efforts were made to maximize the completeness and quality of responses from these institutions. In addition to the large expenditure of effort on the largest institutions, enough high quality responses from DIs of all sizes and types were obtained to ensure that the results are representative of the entire population of DIs.

2.1.1 Sample Design

The population of depository institutions (the sample frame) was stratified before sampling, first by type of DI and then by size. There were four primary strata (by type of institution) in the original design:

1. Commercial banks (CMB)
2. State-chartered savings banks (SSB)
3. Federally-chartered savings banks (FSB)
4. Credit unions (CUS)

These categories were chosen because members of each type classification tend to share similar characteristics. Grouping them in this way improves the precision of the estimates.

Stratification of DIs within types was carried out on the basis of a measure of size called public checkable deposits (PCD), which is available for all insured DIs in the United States. In general, PCD is transaction deposits of individuals, partnerships, and corporations, but does not include deposits of the federal government or other DIs. Although most payments and cash withdrawals are made from the types of accounts included in PCD, DIs would also have reported payments or withdrawals from other accounts so long as they were not made on behalf of other banks.

2.1.2 Sample Frame

The frame was constructed from reports filed with the Federal Reserve by DIs and holding companies. The frame represented the population of insured depository institutions in the United States with nonzero PCD.³ Prior to stratification, DIs were grouped with their holding company, if applicable, using the most current ownership information, and PCD for the holding company was defined as the sum of the PCD for the DIs it owned. The

³ One small change from previous studies is that branches of foreign banks and governments operating within the United States were excluded from the sample frame. Past studies showed that these institutions tend to have unusual payments patterns, complicating estimation, and that—because of their relatively small size and number—exclusion of these institutions has a negligible effect on the national estimates.

sampling unit, therefore, was the DI at its highest institutional level (e.g., holding company).⁴

For estimation, the frame was defined as the entire population of DIs with PCD greater than zero.⁵ For sampling, however, DIs with PCD less than \$1 million were not sampled, as their reports would not contribute significantly to the total estimates. The DIs excluded from sampling represented a negligible share of PCD (less than one tenth of one percent of PCD for each of the four DI types).

Estimates for DIs excluded from sampling were produced using the ratios from the smallest stratum of DIs within each type for which a sample was obtained. The preliminary frame consisted of 13,319 depository institutions. These institutions were stratified by type and then by size within each type, for a total of 25 strata.

2.1.3 Sample Size and Allocation

Like the 2004 DI survey, a sample size of 2,700 institutions was chosen. The sample size was based on the desired margin of error of less than +/-5 percent for a 95 percent level of confidence for the estimate of the total number of checks.

Allocation of the sample to strata was based on a version of Neyman allocation, which approximates the allocation that minimizes the standard error of the total estimate. Where possible, the allocation method included “certainty strata,” where very large DIs represent only themselves, which considerably reduces the estimated standard errors. Exhibit 1 shows the number of institutions in each stratum of the frame and the sample.

⁴ Data were collected for all the institutions owned by the sampled DI.

⁵ DIs with no transaction deposits do not account for a significant number of payments.

Exhibit 1: Original Sample Frame Detail

Type Stratum	Size Stratum	PCD upper bound (thousands)	PCD lower bound (thousands)	In Frame (N)	Sampled (n)
Commercial Banks	0	\$1,000	\$0	53	0
	1	\$16,050	\$1,000	2,043	140
	2	\$33,970	\$16,050	1,689	229
	3	\$62,750	\$33,970	1,215	290
	4	\$112,000	\$62,750	656	388
	5	\$280,000	\$112,000	334	322
	6	\$1,000,000	\$280,000	129	129
	7	\$70,386,900	\$1,000,000	56	56
	<i>Subtotal:</i>			<i>6,175</i>	<i>1,554</i>
State-Chartered Savings Banks	0	\$1,000	\$0	13	0
	1	\$37,000	\$1,000	192	61
	2	\$121,500	\$37,000	119	90
	3	\$800,000	\$121,500	23	23
	4	\$1,188,786	\$800,000	1	1
	<i>Subtotal:</i>			<i>348</i>	<i>175</i>
Federal Savings Banks	0	\$1,000	\$0	43	0
	1	\$18,600	\$1,000	374	12
	2	\$96,000	\$18,600	206	82
	3	\$860,000	\$96,000	54	54
	4	\$36,269,207	\$860,000	10	10
	<i>Subtotal:</i>			<i>687</i>	<i>158</i>
Credit Unions	0	\$1,000	\$0	1,830	0
	1	\$3,052	\$1,000	1,480	156
	2	\$10,060	\$3,052	1,435	187
	3	\$26,000	\$10,060	692	126
	4	\$652,000	\$26,000	425	156
	5	\$620,000	\$652,000	240	181
	6	\$1,514,301	\$620,000	7	7
	<i>Subtotal:</i>			<i>6,109</i>	<i>813</i>
Overall Total:				13,319	2,700

2.1.4 High-Priority Respondents

Depository institutions within each type stratum with the highest PCD (i.e., largest in size) were designated high-priority respondents. The largest DIs were expected to account for a high percentage of the figures being estimated. The need to produce estimates for larger DIs, if they did not report, would disproportionately increase the estimation error. The project team made extraordinary efforts to ensure the participation of high-priority institutions, and to increase the size of certainty strata.

The sample for the 2007 DI study include data from 15 DIs with unusual payment patterns, such as banks that pay rebate checks. These DIs were designated anomalous and were not used to produce estimates for other DIs, but their responses were included in the totals.

2.2 ESTIMATION (AND IMPUTATION)

Data were collected for March and April, 2007. For estimation purposes, a new frame concurrent with that period was constructed using PCD from reports filed with the Federal Reserve for March 31, 2007, and information on the ownership structure of depository institutions as of April 30, 2007. As with the sample frame, allocation of the population and sample to strata was based on a version of Neyman allocation. Exhibit 2 illustrates the final sample frame. Note that the number 9 was reserved to identify anomalous strata in the final frame.

Exhibit 2: Final Sample Frame Detail

Type Stratum	Size Stratum	PCD upper bound (thousands)	PCD lower bound (thousands)	In Frame (N)	Sampled (n)
Commercial Banks	0	\$1,000	\$0	54	0
	1	\$16,050	\$1,000	2,066	157
	2	\$33,970	\$16,050	1,750	264
	3	\$62,750	\$33,970	1,259	333
	4	\$112,000	\$62,750	583	337
	5	\$280,000	\$112,000	301	268
	6	\$1,600,000	\$280,000	124	123
	7	\$68,287,941	\$1,600,000	38	38
	9	*	*	11	11
	<i>Subtotal:</i>			6,186	1,531
State-Chartered Savings Banks	0	\$1,000	\$0	8	0
	1	\$37,000	\$1,000	192	61
	2	\$121,500	\$37,000	127	97
	3	\$767,521	\$121,500	16	16
<i>Subtotal:</i>			343	174	
Federal Savings Banks	0	\$1,000	\$0	58	0
	1	\$96,000	\$1,000	597	94
	2	\$4,500,000	\$96,000	70	58
	3	\$31,742,237	\$4,500,000	2	2
	9	*	*	2	2
<i>Subtotal:</i>			729	156	
Credit Unions	0	\$1,000	\$0	1,757	3**
	1	\$3,052	\$1,000	1,454	142
	2	\$10,060	\$3,052	1,427	183
	3	\$26,000	\$10,060	707	124
	4	\$652,000	\$26,000	419	149
	5	\$620,000	\$652,000	289	198
	6	\$3,392,153	\$620,000	5	5
	9	*	*	2	2
	<i>Subtotal:</i>			6,060	806
Overall Total:			13,318	2,667	

*Stratum reserved for anomalous DIs.

**When PCD data were updated for final estimation from the March 31, 2007 call reports, three credit unions had reported PCD less than \$1 million. When the original sample was drawn, each of these credit unions had a reported PCD greater than \$1 million, and were eligible to be sampled at the time.

Some of the analysis required complete data for every included respondent. For example, estimated subcategories of various payment types needed to add up to totals. As some responses contained missing data, numbers and values were imputed using a linear regression technique that provided estimated responses for all missing data, subject to logical constraints, and based on related data from other DI's of similar type and size.

Estimates of standard errors were constructed using a technique called multiple imputation.⁶ This technique allows the standard errors to account for the uncertainty inherent in the imputation process, by adding a random error to the imputations that simulates the amount of uncertainty in the regressions used for imputation. Thus the standard errors (and the implied confidence intervals used in this report) reflect the uncertainty caused by sampling rather than conducting a census of all 13,318 depository institutions, and the uncertainty induced by the need to impute missing data.⁷

2.3 REFERENCE PERIOD

The reference period was March and April, 2007. A two-month survey period was chosen to mitigate any effect of an aberration in transaction number or value for any given month. March and April were chosen, because they are believed to be sufficiently representative for checks and do not have an unusual number of processing days.⁸ The reference period for the 2001 and 2004 DI studies was also March and April. This significantly influenced the decision to use March and April, 2007, for the current study.

The research plan called for annual estimates. Monthly Federal Reserve check processing data show that the use of a multiplication factor of six (6) to annualize March and April data is reasonably accurate. For simplicity, the factor was used to annualize the two-month data for all transaction types. The same factor was used in previous studies conducted in 2001 and 2004. For 2003 and 2006 check estimates reported in the *2007 Federal Reserve Payments Study* summary report, additional adjustments were made to account

6 Five sets of imputations were generated. For an overview of the technique, see Donald B. Rubin, *Multiple Imputation for Nonresponse in Surveys*, John Wiley and Sons, 1987.

7 Thus, the reported standard errors are greater than standard errors that would have resulted from treating the imputed data as though it were actually reported, but less than standard errors that would have resulted from doing no imputation at all.

8 While April is the end of the annual filing period for most personal income tax returns, tax payments do not have a significant effect on the overall estimates. The research team does not believe April's tax payment and refund volume would have a significant impact on the overall estimates for either check or ACH. Federal refund checks and ACH disbursements are paid by the Federal Reserve Banks on behalf of the U.S. Treasury. The number and value of these payments are known to the Federal Reserve and not measured by the survey of depository institutions. The number and value of Treasury payments by check for 2006 were added to the national estimates after survey results were extrapolated to the industry and annualized (Exhibit 5). ACH payments by U.S. Treasury have not been added to the DI study's estimates, as this study is not intended to be the source for national estimates of the number and value of ACH payments in the United States. (Refer to the 2007 EP study's results for national ACH estimates.)

for the rapid increase in the conversion of checks during the 2003-2007 period (discussed in section 3.2.1 Checks Paid).

2.4 THE SURVEY INSTRUMENT

A copy of the final survey instrument can be found in Appendix A: Survey Instrument (Long Form). The survey measured the number and value of the following payment types and cash withdrawal transactions during March and April, 2007:

1. "Payor Bank" Checks (i.e., paid checks)
 - a. Inclearings and "On-Ups" Checks Deposited by Correspondent Customers (i.e., interbank checks)
 - b. "On-Ups" Checks for Which You are the "Bank of First Deposit" (i.e., intrabank checks)
2. Inclearings and "On-Ups" Checks Deposited by Correspondent Customers by Format Received
 - a. Paper
 - i. Original Paper
 - ii. Substitute Check (i.e., "image replacement document" or IRD)
 - iii. Electronic Check Presentment (ECP) with Paper to Follow
 - b. Truncation
 - i. Image Exchange
 - ii. Electronic Check Presentment (ECP) – Interbank Truncation (i.e., ECP without Paper or Image to Follow or Access to Images)
3. Total Deposited Checks
 - a. Client Image Capture / Deposits
 - b. Branch or ATM Image Capture

4. Returned Checks

- a. Inclearings Returned and “On-Us” Checks Deposited by Correspondent Customers Returned (i.e., interbank checks returned)
- b. “On-Us” Checks Returned for Which You are the “Bank of First Deposit” (i.e., intrabank checks returned)

5. Network ACH Entries

- a. ACH Credits Your Institution Originates Through the Fed or EPN (i.e., Network ODFI Credits)
- b. ACH Debits Your Institution Received Through the Fed or EPN (i.e., Network RDFI Debits)

6. Direct Exchange ACH Entries

- a. ACH Credits Your Institution Originates Directly to Another Institution (i.e., Direct Exchange ODFI Credits)
- b. ACH Debits Your Institution Receives Directly from Another Institution (i.e., Direct Exchange RDFI Debits)

7. In-House On-Us ACH Entries

- a. In-House On-Us Credits Your Institution Originates
- b. In-House On-Us Debits Your Institution Originates

8. Check Conversion ACH Entries

- a. ACH Debit Entries Your Institution Originates Through the Fed or EPN by Selected standard entry classification (SEC) Codes: ARC, POP, BOC (i.e., Network RDFI Debits: ARC, POP, BOC)
- b. ACH Debit Entries Your Institution Receives Directly from Another Institution by Selected SEC Codes: ARC, POP, BOC (i.e., Direct Exchange RDFI Debits: ARC, POP, BOC)

- c. In-House On-Us Debits Originated by Selected SEC Codes: ARC, POP, BOC
- 9. Offline (Signature-Based) Debit Transactions
 - 10. Online (PIN-Based) POS Transactions
 - 11. ATM Withdrawals (Your Customer, Any ATM)
 - a. On-Us ATM Withdrawals (Your Customer, Your ATM)
 - b. Foreign ATM Withdrawals (Your Customer, "Foreign" ATM)

In addition to these items, the survey included a section called the Institution Profile that listed all affiliates (if any) held by the sampled DI. The purpose of the Institution Profile section was to allow respondents to indicate if any particular affiliate had been excluded from the institution's response, and in which survey section(s) that affiliate's data were excluded. Because the design variable of the study, PCD, was a measure of each institution's size, it was important that the size of each institution in the sample correspond to the number of transactions reported. If data reported reflected activity from only half of a bank holding company's subsidiaries, for example, the PCD would need to be adjusted accordingly. Otherwise, the DI would appear to have a relatively low number of transactions for an institution of its size.

The survey was mailed to respondents in hardcopy with a postage-paid business reply envelop enclosed. Respondents were encouraged to respond either by returning the survey in the business reply envelope, by faxing the survey to a designated toll-free number, or by entering totals securely online at www.paymentsstudy.com.

Most responses (74 percent) were received electronically. In all correspondence, respondents were encouraged to respond online at www.paymentsstudy.com. Site access was secured by a unique ID and password for each institution. The ID and password were printed on each letter the institution received and in the header of each page of the hardcopy survey. The web site included an online version of the survey as well as a downloadable PDF (portable document format).

2.5 SURVEY RECRUITMENT AND PARTICIPATION

Sampled DIs were asked to confirm their participation (during a recruitment phase) and then to report transaction totals for the two-month reference period. The recruitment phase served to identify the individual(s) who would report data for the survey and encouraged organizational buy-in. The process of recruitment and participation unfolded over many months through multiple mailings, follow-up calls and emails as needed, and ultimately receipt of data from the respondent.

2.5.1 Contact List Development and Recruitment

After generating the sample, the project team identified two contacts at each institution. Accuity's *Databank* served as the default list for contact names, addresses, phone numbers, etc. Global Concepts supplemented the default list with information from the firm's own database of industry contacts. This was done for high-priority respondents. In cases where Global Concepts did not have contact information for a high-priority respondent, the institution was called and the appropriate contacts identified.

The two contacts were designated as primary and secondary. The primary contact was typically more senior in title than the secondary contact.

2.5.2 Registration

The project plan called for the initial mailing about the study to be sent to the primary contact. The mailing included a "preview copy" of the survey and requested that the primary contact return a *Respondent Registration Form* to identify the appropriate individual to coordinate the DI's response to the study. A copy of the form can be found in Appendix C. The *Registration Form* encouraged a DI to select a single individual who would coordinate the institution's response. Alternatively, a DI could indicate a different individual for each section of the survey. The vast majority of respondents (95 percent of DIs providing data across all topics) relied on a single study coordinator to respond to the survey.

If the primary contact did not respond within 14 business days, a second mailing was sent, this time to the secondary contact. If the secondary contact did not reply within 10

business days, Global Concepts or its subcontractor, International Communications Research (ICR), followed up by calling each contact to confirm receipt of the mailing and to encourage the institution to register a study coordinator. If an institution never responded to the recruitment effort, the project team proceeded under the assumption that the secondary contact was the survey coordinator and mailed all materials to him or her until advised otherwise.

Exhibit 3 indicates the number of institutions that registered for the study by mode of registration.

Exhibit 3: Distribution of Registrations by Mode

	Web Site	Call to DI	Fax	Mail	Call From DI	Total
Commercial Banks	600	334	57	12	4	1,007
State-Chartered Savings Banks	66	35	9	4	2	116
Federal Savings Banks	58	23	3	2	1	87
Credit Unions	259	169	29	5	3	465
Total	983	561	98	23	10	1,675

2.5.3 Respondent Training

Global Concepts invited registered DIs to participate in “webinars” to review and discuss the survey instrument. The webinars were intended to improve the quality of reporting by enhancing respondents’ understanding of what was being measured and why. The firm conducted eight one-hour webinars during the data collection phase of the study. These webinars were held from February through May, with two webinars being held each month. In all, 295 individuals representing 278 institutions participated in the survey review webinars.

Sampled institutions were invited to participate in any webinar of their choosing, and participation was free. During each webinar, Global Concepts explained in detail each

data element being measured by the survey and fielded questions from participants regarding the study via web-based chat. After the conclusion of each webinar, questions and answers were e-mailed to webinar participants and posted on the study's website on a frequently asked questions (FAQ) page.

2.5.4 Survey Response

Of the 1,675 DIs that registered to participate in the study, a total of 1,437 DIs provided survey data. Out of the 2,667 DIs in the final sample, this represents a 54 percent rate of response.⁹ Exhibit 4 illustrates the number of responses received from DIs in each stratum. The lowest response rates were for the smallest commercial banks and credit unions; 39 percent and 41 percent of DIs in those strata provided data respectively. Participation of the largest DIs was the highest. All of the 38 largest commercial banks participated. The high concentration of payments among the largest commercial banks allowed the 2007 DI study to count a large number of payments rather than estimate their totals through statistical estimation.

⁹ The 2001 and 2004 DI studies' response rates were 54 percent and 56 percent respectively.

Exhibit 4: Response Rate per Stratum

Type Stratum	Size Stratum	In Frame (N)	Sampled (n)	Responses	Rate of Response
Commercial Banks	0	54	0	0	
	1	2,066	157	62	39%
	2	1,750	264	143	54%
	3	1,259	333	175	53%
	4	583	337	189	56%
	5	301	268	152	57%
	6	124	123	83	67%
	7	38	38	38	100%
	9	11	11	11	100%
	<i>Subtotal:</i>		<i>6,186</i>	<i>1,531</i>	<i>853</i>
State-Chartered Savings Banks	0	8	0	0	
	1	192	61	33	54%
	2	127	97	61	63%
	3	16	16	11	69%
<i>Subtotal:</i>		<i>343</i>	<i>174</i>	<i>105</i>	<i>60%</i>
Federal Savings Banks	0	58	0	0	
	1	597	94	50	53%
	2	70	58	32	55%
	3	2	2	2	100%
	9	2	2	2	100%
<i>Subtotal:</i>		<i>729</i>	<i>156</i>	<i>86</i>	<i>55%</i>
Credit Unions	0	1,757	3*	0	0%
	1	1,454	142	58	41%
	2	1,427	183	69	38%
	3	707	124	53	43%
	4	419	149	76	51%
	5	289	198	130	66%
	6	5	5	5	100%
	9	2	2	2	100%
	<i>Subtotal:</i>		<i>6,060</i>	<i>806</i>	<i>393</i>
Overall Total:		13,318	2,667	1,437	54%

*When PCD data were updated for final estimation from the March 31, 2007 call reports, three credit unions had reported PCD less than \$1 million. When the original sample was drawn, each of these credit unions had a reported PCD greater than \$1 million, and were eligible to be sampled at the time.

2.6 DATA COLLECTION AND DATA MANAGEMENT

Responses were received through any of four modes: mail, fax, email or online. Mail and fax surveys were logged and processed through a manual data entry system by ICR. Responses received online were input into a mirror copy of the master database as respondents saved data they entered online. Data from all modes were integrated in a master database maintained by ICR.

ICR distributed the current copy of the master dataset on a weekly basis to team members from the Federal Reserve and Global Concepts. In this way team members synchronized their copies of the data while maintaining a central, master copy of the database. ICR backed up the database daily to provide redundancy and as an ongoing record of point-in-time data.

ICR also implemented a software program to track changes and edits to the database, including the source of the change, the content of the record before the change, and the data and time of the change.

2.7 DATA EDITING

In collaboration with Federal Reserve team members, Global Concepts worked from June to October to improve the quality of survey data. Data editing, as this process was called, involved testing the reasonableness of each respondent's data to identify potential reporting errors, following up with respondents as necessary, and either revising or confirming the accuracy of submitted data.

2.7.1 Outlier Identification

Outliers – data outside the expected range of responses – were identified in numerous ways. Some outliers were identified with respect to the sample as a whole. Others were identified within a particular stratum.

Global Concepts focused on identifying outliers in distributions that included the entire sample. For example, staff members calculated each respondent's average value per

Payor Bank Check (i.e., total value / total number). Responses greater than two standard deviations (assuming a normal distribution) from the mean of these average values were flagged for follow-up. Example statistics used to test the reasonableness of a response included the following:

1. Average value per transaction
2. Transaction number per PCD (i.e., size of the institution)
3. Percentage of total transactions that are on-us (i.e., intra-DI payments)
4. Ratio of returned checks to total checks
5. Ratio of one month's number (or value) to the other month's number (or value)

Global Concepts also identified any logical errors in reported data. For example, cases where the sum of subsets did not equal totals were flagged for follow-up.

Federal Reserve team members focused on identifying outliers using various techniques, such as reviewing data that made substantial contributions to standard errors.

Global Concepts maintained a central database to identify outlier responses and tracking data edits and confirmations.

2.7.2 Tracking Outliers and Revisions

Managing the data editing process required the project team to coordinate a regularly updated list of outlier responses and the status of revisions to those outliers. This included tracking current outliers as well as those already "resolved." An outlier response might be resolved in a number of ways based on follow-up dialogue with respondents. A relational database was used to track the status of individual outlier responses throughout the data editing process. Additional details about outlier responses were tracked through detailed annotations. If an outlier response had not been revised before the estimation process began, the project team could review the disposition and any annotations about the outlier to determine whether to use the data or not in the estimation.

3 Survey Results and National Estimates

Using the estimation techniques outlined in section 2, Federal Reserve team members produced annualized March and April, 2007 national estimates for the number and value of all transaction types measured by the study. Estimates of the number and value of checks paid and written in 2003 and 2006 were adjusted to account for the high rate of growth of ACH conversion.

Sample data were collected across four primary strata, but data from some strata were merged to report final estimates for three primary strata:

1. Commercial banks;
2. Credit unions, and;
3. Savings institutions (combines state- and federally-chartered savings institutions).

3.1 ESTIMATES AND MULTIPLE SOURCES

The results of the 2007 DI study are discussed in the sections that follow. This includes estimates of the number and value of check, ACH, and debit card payments as well as the number and value of ATM withdrawals. The estimates of electronic payments from the DI study are compared and contrasted with the findings of the 2007 EP study. Both studies provide estimates for the number of electronic payments made during the time periods they represent. The 2007 EP study estimates the number and value of electronic payments for calendar year 2006. The 2007 DI study estimates the annual number and dollar value of payments based on data from March and April, 2007. Much of the difference in the number or value of electronic payments reported from the two sources is due to the difference in the reference periods. Payment instruments measured by both studies – ACH and debit cards – have experienced significant growth. By estimating the number of

transactions from two separate reference periods, additional inferences can be made about the rate of change in noncash payments.

Important Note: Unless otherwise indicated, the estimates that follow are from the 2007 DI study and are based on annualized March and April, 2007 totals. The estimates may vary slightly from *2007 Federal Reserve Payments Study* summary report released December 10, 2007 due to receipt of additional information. For example, at the time of the December 10, 2007 release, the number of checks paid in 2006 was estimated to be 30.6 billion. The number was revised downward slightly to 30.5 billion, the current 2006 estimate detailed in this report.

3.2 CHECK PAYMENTS

The DI study estimated the total number of checks paid in the United States in 2006. The study also estimated the mode of receipt by the paying bank – either as a paper check or a check received electronically. The number of checks that were returned unpaid was also estimated by the 2007 DI study. These findings are outlined in the following sections.

3.2.1 Checks Paid in 2006

The DI study, combined with information about the number of checks converted to ACH, estimated that 30.5 billion checks were paid in 2006 in the United States. The value of these checks totaled \$41.6 trillion.¹⁰ These estimates include all checks that were written, cleared, and paid as checks. Checks that are converted to substitute checks or cleared as images or electronic check presentment are included in these estimates. Checks that are written and converted to ACH transactions are not included in these estimates.¹¹

10 This is a small revision from the figure reported in the December 10, 2007 release, which at the time was estimated to have been 30.6 billion and \$41.7 trillion respectively.

11 The number of checks paid differs from the number of checks written. By agreement between the payer and the payee, consumer checks can be converted into electronic payments by merchants at the point of sale or in the back office and by billers that receive check remittances. These ACH entries are identified by their three-letter “standard entry class code”: “POP” entries are created by the conversion of checks presented at the point of sale; “BOC” entries are created by checks presented at the point of sale and converted in the back office; “ARC” entries are created by the conversion of remittance checks. They are subsets of “eCheck” ACH payments, single-entry debits to consumer accounts.

The conversion of checks to ACH increased rapidly during 2003-2007. Thus, the reported number and value of checks was significantly smaller for many DIs during the March and April survey period than it would have been for the prior year. The number and value of network ACH check conversion activity for the 2004 and 2007 survey reference periods and prior years is known. Thus adjustments to the 2003 and 2006 paid check estimates were made to account for this difference.¹²

Exhibit 5 and Exhibit 6 below illustrate the estimated number and dollar value of checks paid in 2006 in the United States and the margin of error for each estimate. The exhibits below show both national estimates and estimates by DI type. They also include checks paid on behalf of the U.S. Treasury and the U.S. Postal Service, neither of which were estimated. The Federal Reserve Banks—as paying bank on these types of checks—provided actual counts of the number of U.S. Treasury checks and postal money orders.

Exhibit 5: Number of Checks Paid in 2006

	<u>Total Checks (billion)</u>	<u>95% Confidence Interval</u>	
U.S. Market	30.5	(+/-)	0.6
Commercial Banks	25.1	(+/-)	0.5
<i>included adjustment</i>	<i>0.8</i>		
Credit Unions	2.7	(+/-)	0.1
Savings Institutions	2.3	(+/-)	0.3
U.S. Treasury Checks	0.2		
Postal Money Orders	0.2		

Figures may not add due to rounding.

¹² Adjustments to all of the subcategories of paid checks was not possible.

Exhibit 6: Value of Checks Paid in 2006

	<u>Total Checks Value (trillion)</u>		<u>95% Confidence Interval</u>
U.S. Market	\$41.6	(+/-)	\$0.9
Commercial Banks	\$39.0	(+/-)	\$0.9
<i>included adjustment</i>	\$0.2		
Credit Unions	\$0.8	(+/-)	\$0.0
Savings Institutions	\$1.6	(+/-)	\$0.2
U.S. Treasury Checks	\$0.2		
Postal Money Orders	*		

Figures may not add due to rounding.

*The value of postal money orders in 2006 was \$28 billion.

The average value per check paid in 2006 was \$1,363 (Exhibit 7).

Exhibit 7: Average Value of Checks Paid in 2006

	<u>Total Checks Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,363	(+/-)	\$31
Commercial Banks	\$1,550	(+/-)	\$36
<i>included adjustment</i>	\$228		
Credit Unions	\$288	(+/-)	\$11
Savings Institutions	\$696	(+/-)	\$52
U.S. Treasury Checks	\$1,203		
Postal Money Orders	\$164		

3.2.2 Checks Paid Based on March and April Survey Data

The estimates that follow have not been adjusted to reflect 2006 estimates. They represent annual estimates based on survey data reported for March and April, 2007. In cases where changes from the last study are considered, the latest annual estimates are compared to those based on the 2004 DI study's reference period of March and April, 2004.

Exhibit 8 and Exhibit 9 below illustrate the estimated annual number and dollar value of checks paid in the United States and the margin of error for each estimate. The exhibits below show both national estimates and estimates by DI type. They also include checks paid on behalf of the U.S. Treasury and the U.S. Postal Service, neither of which were estimated. The Federal Reserve Banks—as paying bank on these checks—were able to provide actual counts of the number of U.S. Treasury checks and postal money orders.¹³

Exhibit 8: Number of Checks Paid

	<u>Total Checks (billion)*</u>		<u>95% Confidence Interval</u>
U.S. Market	29.8	(+/-)	0.6
Commercial Banks	24.4	(+/-)	0.5
Credit Unions	2.7	(+/-)	0.1
Savings Institutions	2.3	(+/-)	0.3
U.S. Treasury Checks	0.2		
Postal Money Orders	0.2		

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period. Treasury checks and postal money orders are known and are based on activity between October 2006 and June 2007, the 12-month period that straddles the 2007 DI Study reference period.

¹³ The number and value of U.S. Treasury Checks and Postal Money Orders are based on activity between October 2006 and Jun 2007, the 12-month period that straddles the 2007 DI Study reference period.

Exhibit 9: Value of Checks Paid

	<u>Total Checks Value (trillion)</u>		<u>95% Confidence Interval</u>
U.S. Market	\$41.4	(+/-)	\$0.9
Commercial Banks	\$38.8	(+/-)	\$0.9
Credit Unions	\$0.8	(+/-)	\$0.0
Savings Institutions	\$1.6	(+/-)	\$0.2
U.S. Treasury Checks	\$0.2		
Postal Money Orders	*		

Figures may not add due to rounding.

*The value of postal money orders from October 2006 to June 2007 was \$31 billion.

The average value per check paid at the time of the study was \$1,392 (Exhibit 10).

Exhibit 10: Average Value of Checks Paid

	<u>Total Checks Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,392	(+/-)	\$31
Commercial Banks	\$1,592	(+/-)	\$36
Credit Unions	\$288	(+/-)	\$11
Savings Institutions	\$696	(+/-)	\$52
U.S. Treasury Checks	\$1,085		
Postal Money Orders	\$183		

3.2.3 Change in Checks Paid

The number of paid checks in the United States decreased 6.7 percent per year between the 2004 and 2007 DI studies. The number of paid checks fell from 36.6 billion to 29.8 billion between the two studies.

The value of paid checks was relatively unchanged between the 2004 and 2007 DI studies: \$41.0 trillion and \$41.4 trillion respectively, an increase of 0.4 percent per year. During the same period, the average value per check paid increased \$274. Exhibit 11 below

illustrates the number, value, and average value of checks paid annual according to the 2004 and 2007 DI studies.

Exhibit 11: Number, Value and Average Value of Checks Paid

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Payor Bank Checks (billion)	36.6	+/-	0.7	29.8	+/-	0.6	-6.7%
Value of Payor Bank Checks (trillion)	\$41.0	+/-	\$0.8	\$41.4	+/-	\$0.9	0.4%
Average Value	\$1,118	+/-	\$22	\$1,392	+/-	\$31	7.6%

3.2.4 “Interbank” Checks Paid

The 2007 DI study estimated that of the 29.8 billion checks paid per year, 23.7 billion (80 percent) were interbank checks. This estimate includes inclearings received by the paying bank and checks deposited by correspondent banking customers that are drawn on the paying bank. These checks involve two or more financial institutions to clear the check. Exhibit 12 below provides details of interbank checks paid.

Exhibit 12: Number of Interbank Checks Paid

	<u>Interbank Checks (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Checks**</u>
U.S. Market	23.7	(+/-)	0.5	80%
Commercial Banks	18.7	(+/-)	0.4	74%
Credit Unions	2.6	(+/-)	0.1	96%
Savings Institutions	2.0	(+/-)	0.3	88%
U.S. Treasury Checks	0.2			
Postal Money Orders	0.2			

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period. Treasury checks and postal money orders are known and are based on activity between October 2006 and June 2007, the 12-month period that straddles the 2007 DI Study reference period.

**Percentage of total paid checks within DI type that are interbank checks.

The value of interbank checks paid was \$29.6 trillion as estimated by the 2007 DI study (Exhibit 13). The average value per interbank check paid was \$1,248 (Exhibit 14).

Exhibit 13: Value of Interbank Checks Paid

	<u>Interbank Checks Value (trillion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Checks**</u>
U.S. Market	\$29.6	(+/-)	\$0.6	71%
Commercial Banks	\$27.3	(+/-)	\$0.6	70%
Credit Unions	\$0.7	(+/-)	\$0.0	93%
Savings Institutions	\$1.3	(+/-)	\$0.1	81%
U.S. Treasury Checks	\$0.3			
Postal Money Orders	***			

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total paid check value within DI type that is interbank checks.

***The value of postal money orders from October 2006 to June 2007 was \$31 billion.

Exhibit 14: Average Value of Interbank Checks Paid

	<u>Interbank Checks Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,248	(+/-)	\$28
Commercial Banks	\$1,460	(+/-)	\$34
Credit Unions	\$279	(+/-)	\$11
Savings Institutions	\$640	(+/-)	\$49
U.S. Treasury Checks	\$1,230		
Postal Money Orders	\$183		

3.2.5 “Interbank” Checks Paid by Format Received

The 2007 DI study estimated that 6.6 billion interbank checks per year—excluding Treasury checks and postal money orders—were presented electronically to the paying banks at the time of the study (Exhibit 15). This represents 28 percent of all interbank checks received by DIs.

Electronically presented interbank checks are received in one of two ways:

- Image Exchange – The paying bank receives interbank checks as either an electronic check presentment (ECP) file with accompanying images or an ECP file with the ability to retrieve the corresponding check images from an archive.
- Electronic Check Presentment Interbank Truncation – The paying bank receives interbank checks as ECP items with no paper to follow, no accompanying images, and no access to the items in an image archive. Only the MICR line data are received.

At the time of the study, more than half (57 percent) of all interbank checks received by DIs were received as the original paper check (Exhibit 15).

Exhibit 15: Number of Paper vs. Truncated Interbank Checks Paid

	Interbank Checks (billion)*	(+/-)	95% Confidence Interval	% of Total Interbank Checks Received by DIs**
Total Interbank Checks	23.7	(+/-)	0.5	NA
U.S. Treasury Checks	0.2			NA
Postal Money Orders	0.2			NA
<hr/>				
Total Interbank Checks Received by DIs	23.3	(+/-)	0.5	100%
<i>Received as . . .</i>				
Paper	16.7	(+/-)	0.4	72%
Original Paper	13.3	(+/-)	0.4	57%
Substitute Check	3.0	(+/-)	0.2	13%
ECP w/ Paper to Follow	0.5	(+/-)	0.1	2%
Truncated Item	6.6	(+/-)	0.3	28%
Image Exchange	6.4	(+/-)	0.3	27%
ECP Interbank Truncation	0.2	(+/-)	0.1	1%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Does not include Treasury checks or postal money orders.

3.2.6 Change in “Interbank” Checks Paid

Between the 2004 and 2007 DI studies, the number of interbank checks paid decreased 5.8 percent per year from 28.4 billion to 23.7 billion respectively. During the same period, the value associated with these checks increased 0.8 percent per year.

Exhibit 16 below illustrates the change in the number, value, and average value of interbank checks paid between the two studies.

Exhibit 16: Change in the Number, Value and Average Value of Interbank Checks Paid

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Interbank Checks (billion)	28.4	+/-	0.6	23.7	+/-	0.5	-5.8%
Value of Interbank Checks (trillion)	\$28.9	+/-	\$0.8	\$29.6	+/-	\$0.6	0.8%
Average Value	\$1,018	+/-	\$25	\$1,248	+/-	\$28	7.0%

3.2.7 “On-Us” Paid Checks

Of the 29.8 billion checks paid, the 2007 DI study estimated that 6.1 billion, or 20 percent of total checks paid, were on-us (Exhibit 17). On-us checks are checks that are deposited or cashed at the same depository institution on which they are drawn.

Exhibit 17: Number of On-Us Checks Paid

	<u>On-Us Checks (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Checks**</u>
U.S. Market	6.1	(+/-)	0.3	20%
Commercial Banks	5.7	(+/-)	0.3	23%
Credit Unions	0.1	(+/-)	0.3	4%
Savings Institutions	0.3	(+/-)	0.3	12%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total paid checks within DI type that are on-us checks.

The value associated with these on-us checks was estimated to be 11.9 trillion (Exhibit 18), with an average value of \$1,958 as seen in Exhibit 19 below.

Exhibit 18: Value of On-Us Checks Paid

	<u>On-Us Checks Value (trillion)*</u>	<u>(+/-)</u>	<u>95% Confidence Interval</u>	<u>% of Total Checks**</u>
U.S. Market	\$11.9	(+/-)	\$0.6	29%
Commercial Banks	\$11.5	(+/-)	\$0.6	30%
Credit Unions	\$0.1	(+/-)	\$0.0	7%
Savings Institutions	\$0.3	(+/-)	\$0.0	19%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total paid check value within DI type that is on-us checks.

Exhibit 19: Average Value of On-Us Checks Paid

	<u>On-Us Checks Avg. Value</u>	<u>(+/-)</u>	<u>95% Confidence Interval</u>
U.S. Market	\$1,958	(+/-)	\$130
Commercial Banks	\$2,025	(+/-)	\$138
Credit Unions	\$526	(+/-)	\$122
Savings Institutions	\$1,102	(+/-)	\$77

3.2.8 Change in “On-Us” Checks Paid

The number of on-us checks estimated by the 2004 and 2007 DI studies fell from 8.2 billion to 6.1 billion respectively. This represents a decrease of 9.8 percent per year (Exhibit 20).

The value of on-us checks also fell between the two studies from \$12.1 trillion to \$11.9 trillion. This is a 0.6 percent decrease per year as seen in Exhibit 20 below.

Exhibit 20: Change in the Number, Value and Average Value of On-Us Checks Paid

	<u>2004 DI Study</u>	<u>2007 DI Study</u>	<u>CAGR</u>
On-Us Checks (billion)	8.2 +/- 0.3	6.1 +/- 0.3	-9.8%
Value of On-Us Checks (trillion)	\$12.1 +/- \$0.3	\$11.9 +/- \$0.6	-0.6%
Average Value	\$1,464 +/- \$51	\$1,958 +/- \$130	10.2%

3.2.9 Checks Returned Unpaid

The 2007 DI study estimated that 153.0 million checks were returned unpaid, totaling \$182.5 billion dollars. The average value per returned check was \$1,193. Exhibit 21, Exhibit 22, and Exhibit 23 illustrate the number, value, and average value respectively of checks returned unpaid.

Exhibit 21: Number of Checks Returned Unpaid

	<u>Returned Checks (million)*</u>	<u>95% Confidence Interval</u>
U.S. Market	153.0	(+/-) 6.2
Commercial Banks	111.8	(+/-) 2.5
Credit Unions	22.8	(+/-) 1.9
Savings Institutions	18.4	(+/-) 5.3

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 22: Value of Checks Returned Unpaid

	<u>Returned Checks Value (billion)*</u>	<u>95% Confidence Interval</u>
U.S. Market	\$182.5	(+/-) \$6.7
Commercial Banks	\$143.2	(+/-) \$3.4
Credit Unions	\$9.3	(+/-) \$0.8
Savings Institutions	\$30.0	(+/-) \$6.2

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 23: Average Value of Checks Returned Unpaid

	<u>Returned Checks Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,193	(+/-)	\$52
Commercial Banks	\$1,280	(+/-)	\$30
Credit Unions	\$407	(+/-)	\$30
Savings Institutions	\$1,632	(+/-)	\$429

3.2.10 Change in Checks Returned Unpaid

Between the 2004 and 2007 DI studies, the number of checks returned unpaid decreased at a rate of 6.4 percent per year, nearly the same rate of decline of 6.7 percent per year for checks paid. Thus, the ratio of checks returned to checks paid (0.5 percent) was unchanged. The value of returned checks *increased* 10.2 percent per year during the same period, and the ratio of returned checks to paid checks by value increased from 0.3 percent to 0.4 percent. The average value of returned checks increased from \$731 to \$1,193.

Exhibit 24 below illustrates the change in the number, value, and average value of checks returned unpaid between the two studies.

Exhibit 24: Change in the Number, Value and Average Value of Checks Returned Unpaid

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Returned Checks (million)	186.9	+/-	5.1	153.0	+/-	6.2	-6.4%
Value of Returned Checks (billion)	\$136.5	+/-	\$3.3	\$182.5	+/-	\$6.7	10.2%
Average Value	\$731	+/-	\$19	\$1,193	+/-	\$52	17.7%

3.2.11 “Interbank” Checks Returned Unpaid

The 2007 DI study estimated that 131.1 million interbank checks were returned unpaid. These interbank checks returned totaled \$145.4 billion, averaging \$1,109 per check.

Exhibit 25 illustrates the number of checks returned unpaid. Exhibit 26 and Exhibit 27 detail the value and average value respectively of checks returned unpaid.

Exhibit 25: Number of Interbank Checks Returned Unpaid

	Interbank Returned Checks (million)*		95% Confidence Interval
U.S. Market	131.1	(+/-)	5.9
Commercial Banks	91.9	(+/-)	1.9
Credit Unions	22.1	(+/-)	1.9
Savings Institutions	17.0	(+/-)	5.2

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 26: Value of Interbank Checks Returned Unpaid

	Interbank Returned Checks Value (billion)*		95% Confidence Interval
U.S. Market	\$145.4	(+/-)	\$6.0
Commercial Banks	\$117.3	(+/-)	\$3.4
Credit Unions	\$8.6	(+/-)	\$0.7
Savings Institutions	\$19.5	(+/-)	\$5.0

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 27: Average Value of Interbank Checks Returned Unpaid

	Interbank Returned Checks Avg. Value		95% Confidence Interval
U.S. Market	\$1,109	(+/-)	\$57
Commercial Banks	\$1,276	(+/-)	\$40
Credit Unions	\$387	(+/-)	\$29
Savings Institutions	\$1,143	(+/-)	\$329

3.2.12 Change in “Interbank” Checks Returned Unpaid

Between the 2004 and 2007 DI studies, the number of interbank checks returned unpaid fell from 166.0 million to 131.1 million, a 7.6 percent decrease per year. The value associated with these checks increased 6.5 percent during the same period, from \$120.3 billion to \$145.4 billion. As a result, the average value per returned check increased from \$725 to \$1,109 between the two studies.

Details regarding the number, value, and average value of interbank checks returned are provided in Exhibit 28 below.

Exhibit 28: Change in the Number, Value and Average Value of Interbank Checks Returned

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Interbank Returned Checks (million)	166.0	+/-	5.0	131.1	+/-	5.9	-7.6%
Value of Interbank Returned Checks (billion)	\$120.3	+/-	\$3.2	\$145.4	+/-	\$6.0	6.5%
Average Value	\$725	+/-	\$21	\$1,109	+/-	\$57	15.2%

3.2.13 “On-Us” Checks Returned Unpaid

A subset of returned checks was not cleared between depository institutions. On-us returned checks represent the subset of payor bank checks returned unpaid to the depositing customer.¹⁴ The 2007 DI study estimated that there were 21.9 million on-us checks returned per year, totaling \$37.1 billion, as illustrated by Exhibit 29 and Exhibit 30 below.

¹⁴ These are checks drawn on the DI of first deposit that are returned unpaid.

Exhibit 29: Number of On-Us Checks Returned Unpaid

	<u>On-Us Returned Checks (million)*</u>		<u>95% Confidence Interval</u>
U.S. Market	21.9	(+/-)	1.6
Commercial Banks	19.9	(+/-)	1.3
Credit Unions	0.7	(+/-)	0.4
Savings Institutions	1.4	(+/-)	0.6

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 30: Value of On-Us Checks Returned Unpaid

	<u>On-Us Returned Checks Value (billion)*</u>		<u>95% Confidence Interval</u>
U.S. Market	\$37.1	(+/-)	\$3.4
Commercial Banks	\$25.8	(+/-)	\$1.2
Credit Unions	\$0.7	(+/-)	\$0.3
Savings Institutions	\$10.6	(+/-)	\$3.2

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 31: Average Value of On-Us Checks Returned Unpaid

	<u>On-Us Returned Checks Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,694	(+/-)	\$200
Commercial Banks	\$1,300	(+/-)	\$100
Credit Unions	\$1,073	(+/-)	\$350
Savings Institutions	\$7,662	(+/-)	\$2,187

3.2.14 Change in “On-Ups” Checks Returned Unpaid

The number of on-us checks returned grew modestly between the 2004 and 2007 DI studies, from 20.8 million to 21.9 million. This represents a 1.7 percent increase per year (Exhibit 32).

During the same time period, the value associated with on-us checks returned unpaid increased 31.8 percent per year increasing from \$16.2 billion to \$37.1 billion. Because the value of on-us checks returned increased more rapidly than the number of checks, the average value per return increased from \$778 to \$1,694 between the two studies (Exhibit 32).

Exhibit 32: Change in the Number, Value and Average Value of On-Ups Checks Returned Unpaid

	<u>2004 DI Study</u>		<u>2007 DI Study</u>		<u>CAGR</u>
On-Ups Returned Checks (million)	20.8	+/- 0.8	21.9	+/- 1.6	1.7%
Value of On-Ups Returned Checks (billion)	\$16.2	+/- \$0.8	\$37.1	+/- \$3.4	31.8%
Average Value	\$778	+/- \$25	\$1,694	+/- \$200	29.6%

3.3 ACH PAYMENTS

The DI study supplements the EP study by estimating the share of total ACH payments that are not cleared through an ACH operator – either the Federal Reserve or Electronic Payments Network (EPN). Industry estimates for the number and value of ACH payments have historically included the sum of payments processed by the ACH network operators plus an informal estimate of other volume, such as direct exchange ACH payments (section 3.3.7) or in-house on-us ACH payments (section 3.3.8).

The 2007 DI study provides a national estimate of the number and value of total ACH payments, including in-house on-us payments and direct exchange payments. DIs reported credits originated and debits received as these reflect debits from DDA accounts, consistent with check payments.

Dollar value data, in particular, proved difficult to estimate, due in part to depository institutions' use of ACH for high-dollar internal transfers, which inflate total value estimates.

3.3.1 Total ACH Payments

The 2007 DI study estimated that 18.1 billion ACH payments were made per year from demand deposit accounts (Exhibit 33).

Exhibit 33: Number of ACH Payments

	<u>ACH Payments (billion)*</u>	<u>95% Confidence Interval</u>
U.S. Market	18.1	(+/-) 0.6
Commercial Banks	14.8	(+/-) 0.5
Credit Unions	1.7	(+/-) 0.1
Savings Institutions	1.6	(+/-) 0.2

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

The value associated with these ACH payments was \$142.7 trillion, with each entry averaging \$7,896 (Exhibit 34 and Exhibit 35). The total dollar value estimate is much higher than the estimate from the 2007 EP study. The difference is due largely to the high value of in-house on-us ACH entries reported by respondents. The use of ACH by DIs for high-dollar internal transfers – which may not actually be payments – inflated the total dollar value of ACH estimated by the 2007 DI study.

Exhibit 34: Value of ACH Payments

	<u>ACH Payments Value (trillion)*</u>	<u>95% Confidence Interval</u>
U.S. Market	\$142.7	(+/-) \$15.4
Commercial Banks	\$139.4	(+/-) \$15.4
Credit Unions	\$0.6	(+/-) \$0.0
Savings Institutions	\$2.6	(+/-) \$0.3

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 35: Average Value of ACH Payments

	<u>ACH Payments Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$7,896	(+/-)	\$823
Commercial Banks	\$9,406	(+/-)	\$1,001
Credit Unions	\$367	(+/-)	\$19
Savings Institutions	\$1,684	(+/-)	\$134

3.3.2 Change in ACH Payments

Between the 2004 and 2007 DI studies, the number of ACH payments grew from 10.5 billion to 18.1 billion respectively. This is an increase of 20.0 percent per year.

The value of ACH payments increased 18.1 percent per year. The 2004 DI study estimated that ACH payments totaled \$86.7 trillion per year, and the 2007 DI study estimated ACH payments to be \$142.7 trillion per year (Exhibit 36).

The average value of these payments decreased from \$8,279 to \$7,896 between the two studies. The decrease in average value per ACH payment is driven by the increase in the proportion of ACH payments that are relatively low-value transactions, particularly consumer checks that are converted to ACH entries.

Exhibit 36 below illustrates the change in average value along with the increase in the number and value of ACH payments.

Exhibit 36: Change in the Number, Value and Average Value of ACH Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
ACH Payments (billion)	10.5	+/-	0.3	18.1	+/-	0.6	20.0%
Value of ACH Payments (trillion)	\$86.7	+/-	\$2.2	\$142.7	+/-	\$15.4	18.1%
Average Value	\$8,279	+/-	\$0	\$7,896	+/-	\$823	-1.6%

3.3.3 ACH Credits and Debits

The 2007 DI study estimated that there were 6.6 billion ACH credits and 11.5 billion ACH debits paid per year from (Exhibit 37 and Exhibit 38). The value of credit payments, however, was nearly the same as debit payments, despite being about half the volume (Exhibit 39 and Exhibit 40). As a result, the average value per ACH credit entry, \$10,752, was nearly twice as high as the average value per ACH debit entry, \$6,256 (Exhibit 41 and Exhibit 42). The difference in average values reflects the different uses of ACH for credit origination and debit origination. Whereas credit payments are often used for business-to-business remittance and payroll disbursements, debits are used more frequently for consumer bill payment purposes and consumer check conversion.

Exhibit 37: Number of ACH Credits

	ACH Credits Originated (billion)*		95% Confidence Interval		% of Total ACH Payments**
U.S. Market	6.6	(+/-)	0.3		36%
Commercial Banks	6.4	(+/-)	0.3		43%
Credit Unions	0.1	(+/-)	0.0		7%
Savings Institutions	0.1	(+/-)	0.0		7%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments within DI type that are ACH credits originated.

Exhibit 38: Number of ACH Debits

	ACH Debits Received (billion)*		95% Confidence Interval		% of Total ACH Payments**
U.S. Market	11.5	(+/-)	0.4		64%
Commercial Banks	8.5	(+/-)	0.4		57%
Credit Unions	1.6	(+/-)	0.1		93%
Savings Institutions	1.5	(+/-)	0.2		93%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments within DI type that are ACH debits received.

Exhibit 39: Value of ACH Credits

	ACH Credits Originated Value (trillion)*		95% Confidence Interval	% of Total ACH Payments**
U.S. Market	\$70.9	(+/-)	\$10.9	50%
Commercial Banks	\$70.0	(+/-)	\$10.9	50%
Credit Unions	\$0.1	(+/-)	\$0.0	14%
Savings Institutions	\$0.8	(+/-)	\$0.2	32%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments value within DI type that is ACH credits originated.

Exhibit 40: Value of ACH Debits

	ACH Debits Received Value (trillion)*		95% Confidence Interval	% of Total ACH Payments**
U.S. Market	\$71.8	(+/-)	\$10.9	50%
Commercial Banks	\$69.5	(+/-)	\$10.9	50%
Credit Unions	\$0.5	(+/-)	\$0.0	86%
Savings Institutions	\$1.8	(+/-)	\$0.3	68%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments value within DI type that is ACH debits received.

Exhibit 41: Average Value of ACH Credits

	ACH Credits Originated Avg. Value		95% Confidence Interval
U.S. Market	\$10,752	(+/-)	\$1,662
Commercial Banks	\$10,998	(+/-)	\$1,725
Credit Unions	\$745	(+/-)	\$88
Savings Institutions	\$7,291	(+/-)	\$1,949

Exhibit 42: Average Value of ACH Debits

	ACH Debits Received Avg. Value		95% Confidence Interval
U.S. Market	\$6,256	(+/-)	\$894
Commercial Banks	\$8,209	(+/-)	\$1,197
Credit Unions	\$339	(+/-)	\$18
Savings Institutions	\$1,237	(+/-)	\$105

3.3.4 Change in ACH Credits and Debits

The 2007 DI study estimated that 1.9 billion more ACH credits were originated per year than at the time of 2004 DI study. ACH credits originated grew from 4.7 billion entries to 6.6 billion entries between the 2004 and 2007 DI studies respectively. This represents an 11.6 percent increase per year (Exhibit 43).

Exhibit 43: Change in the Number, Value and Average Value of ACH Credits

	2004 DI Study			2007 DI Study			CAGR
ACH Credits Originated (billion)	4.7	+/-	0.2	6.6	+/-	0.3	11.6%
Value of ACH Credits Originated (trillion)	\$54.0	+/-	\$1.6	\$70.9	+/-	\$10.9	9.5%
Average Value	\$11,401	+/-	\$486	\$10,752	+/-	\$1,662	-1.9%

The growth in ACH debits was more substantial. Between the 2004 and 2007 DI studies, ACH debits grew from 5.7 billion to 11.5 billion respectively (Exhibit 44). This is a 26.1 percent increase per year. Much of the growth is driven by check conversion (“eCheck”) entries such as ARC (Accounts Receivable), POP (Point of Purchase), and BOC (Back Office Conversion).

Exhibit 44: Change in the Number, Value and Average Value of ACH Debits

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
ACH Debit Received (billion)	5.7	+/-	0.2	11.5	+/-	0.4	26.1%
Value of ACH Debits Received (trillion)	\$32.6	+/-	\$1.5	\$71.8	+/-	\$10.9	30.1%
Average Value	\$5,695	+/-	\$304	\$6,256	+/-	\$894	3.2%

3.3.5 Network ACH Payments

The 2007 DI study estimated that, at the time of the study, 15.0 billion ACH payments were cleared per year through an ACH operator – either the Federal Reserve or EPN (Exhibit 45). The value of these network ACH payments totaled \$37.1 trillion (Exhibit 46). Note that these estimates include network on-us entries. Some DIs choose to send on-us payments over a network rather than over an internal system.

Exhibit 45: Number of Network ACH Payments

	<u>Network ACH Payments (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total ACH Payments**</u>
U.S. Market	15.0	(+/-)	0.5	83%
Commercial Banks	12.2	(+/-)	0.5	82%
Credit Unions	1.6	(+/-)	0.1	98%
Savings Institutions	1.1	(+/-)	0.1	72%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments within DI type that are network ACH payments.

Exhibit 46: Value of Network ACH Payments

	Network ACH Payments Value (trillion)*		95% Confidence Interval		% of Total ACH Payments**
U.S. Market	\$37.1	(+/-)	\$1.8		26%
Commercial Banks	\$35.4	(+/-)	\$1.8		25%
Credit Unions	\$0.6	(+/-)	\$0.0		97%
Savings Institutions	\$1.0	(+/-)	\$0.2		39%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments value within DI type that is network ACH payments.

The average value per ACH payment sent through the network was \$2,478.

Exhibit 47: Average Value of Network ACH Payments

	Network ACH Payments Avg. Value		95% Confidence Interval
U.S. Market	\$2,478	(+/-)	\$75
Commercial Banks	\$2,907	(+/-)	\$86
Credit Unions	\$362	(+/-)	\$19
Savings Institutions	\$922	(+/-)	\$131

3.3.6 Change in Network ACH Payments

Between the 2004 and 2007 DI studies, the number of ACH payments cleared via a network operator increased from 8.8 billion to 15.0 billion respectively. This is a 19.5 percent increase per year. Details regarding the change in number, value, and average value of network ACH payments are outlined in Exhibit 48 below.

Exhibit 48: Change in the Number, Value and Average Value of Network ACH Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Network ACH Payments (billion)	8.8	+/-	0.3	15.0	+/-	0.5	19.5%
Value of Network ACH Payments (trillion)	\$49.8	+/-	\$2.0	\$37.1	+/-	\$1.8	-9.4%
Average Value	\$5,683	+/-	\$258	\$2,478	+/-	\$75	-24.2%

3.3.7 Direct Exchange ACH Payments

The 2007 DI study added a new measure of interbank ACH payments: direct exchange ACH payments. These entries are sent directly from the originating depository institution (or its third-party processor) to the receiving depository institution (or its third-party processor). The entries are not sent to an ACH operator (i.e., Federal Reserve or EPN) for processing. The practice is not widely used. The 2007 DI study estimated that 41.6 million ACH payments were direct exchange entries. Exhibit 49 below illustrates the number of direct exchange ACH payments by institution type.

Exhibit 49: Number of Direct Exchange ACH Payments

	<u>Direct Exchange ACH Payments (million)*</u>		<u>95% Confidence Interval</u>	<u>% of Total ACH Payments**</u>
U.S. Market	41.6	(+/-)	15.0	0.2%
Commercial Banks	20.8	(+/-)	10.1	0.1%
Credit Unions	15.0	(+/-)	9.4	0.9%
Savings Institutions	5.8	(+/-)	5.6	0.4%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments within DI type that are direct exchange ACH payments.

The value associated with these direct exchange ACH payments was estimated to be \$26.6 billion by the 2007 DI study, and the average value per entry was \$640 (Exhibit 50 and Exhibit 51).

Exhibit 50: Value of Direct Exchange ACH Payments

	Direct Exchange ACH Payments Value (billion)*		95% Confidence Interval		% of Total ACH Payments**
U.S. Market	\$26.6	(+/-)	\$9.3		0.0%
Commercial Banks	\$14.0	(+/-)	\$6.8		0.0%
Credit Unions	\$10.1	(+/-)	\$6.0		1.6%
Savings Institutions	\$2.6	(+/-)	\$1.9		0.1%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments value within DI type that is direct exchange ACH payments.

Exhibit 51: Average Value of Direct Exchange ACH Payments

	Direct Exchange ACH Payments Avg. Value		95% Confidence Interval
U.S. Market	\$640	(+/-)	\$107
Commercial Banks	\$674	(+/-)	\$154
Credit Unions	\$668	(+/-)	\$133
Savings Institutions	\$447	(+/-)	\$201

3.3.8 In-House “On-U” ACH Payments

In-house on-us ACH payments are payments made between accountholders at the same depository institution that are cleared internally using the DI’s ACH system. At the time of the 2007 DI study, there were an estimated 3.1 billion in-house on-us ACH payments made per year, totaling \$105.6 trillion (Exhibit 52 and Exhibit 53).

Exhibit 52: Number of In-House On-Ups ACH Payments

	<u>In-House On-Ups ACH Payments (billion)*</u>		<u>95% Confidence Interval</u>		<u>% of Total ACH Payments**</u>
U.S. Market	3.1	(+/-)	0.2		17%
Commercial Banks	2.6	(+/-)	0.2		18%
Credit Unions	0.0	(+/-)	0.0		1%
Savings Institutions	0.4	(+/-)	0.1		28%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments within DI type that are in-house on-us ACH payments.

Exhibit 53: Value of In-House On-Ups ACH Payments

	<u>In-House On-Ups ACH Payments Value (trillion)*</u>		<u>95% Confidence Interval</u>		<u>% of Total ACH Payments**</u>
U.S. Market	\$105.6	(+/-)	\$15.3		74%
Commercial Banks	\$104.0	(+/-)	\$15.3		75%
Credit Unions	\$0.0	(+/-)	\$0.0		2%
Savings Institutions	\$1.6	(+/-)	\$0.2		61%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ACH payments value within DI type that is in-house on-us ACH payments.

Of the total number of ACH payments, 17 percent were in-house on-us payments (Exhibit 52 above), while 74 percent of the value came from these internal payments (Exhibit 53 above).

Note that the value of these payments is inflated due to the use of ACH by DIs for high-dollar internal transfers, which may not actually be payments. As a result, the average value per transaction is also inflated for in-house on-us ACH payments. The average in-house on-us ACH payment was \$34,395 as illustrated by Exhibit 54 below.

Exhibit 54: Average Value of In-House On-U.s ACH Payments

	<u>In-House On-U.s ACH Payments Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$34,395	(+/-)	\$4,403
Commercial Banks	\$39,834	(+/-)	\$5,118
Credit Unions	\$513	(+/-)	\$101
Savings Institutions	\$3,641	(+/-)	\$377

3.3.9 Change in In-House “On-U.s” ACH Payments

Between the 2004 and 2007 DI studies, the number of in-house on-us ACH payments increased from 1.7 billion entries to 3.1 billion entries respectively, a 21.8 percent increase per year (Exhibit 55).

The value associated with these on-us payments increased 42.1 percent during the same period from \$36.8 trillion to \$105.6 trillion (Exhibit 55).

Exhibit 55: Change in the Number, Value and Average Value of In-House On-U.s ACH Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
In-House On-U.s ACH Payments (billion)	1.7	+/-	0.0	3.1	+/-	0.2	21.8%
Value of In-House On-U.s ACH Payments (trillion)	\$36.8	+/-	\$0.9	\$105.6	+/-	\$15.3	42.1%
Average Value	\$21,686	+/-	\$652	\$34,395	+/-	\$4,403	16.6%

3.4 DEBIT CARD PAYMENTS

The 2007 DI study estimated the number and value of signature-based and PIN-based debit card payments. Together, these represent all purchases or bill payment transactions made by debit cards (or ATM cards for point-of-sale payments).

3.4.1 Total Debit Card Payments

At the time of the 2007 DI study, there were 30.4 billion total debit card payments made per year, totaling \$1,224.7 billion. These estimates combine signature-based debit card payments and PIN-based debit card payments.¹⁵ Exhibit 56 below details the estimated number of total debit card payments.

Exhibit 56: Number of Total Debit Card Payments

	<u>Total Debit (billion)*</u>	<u>95% Confidence Interval</u>	
U.S. Market	30.4	(+/-)	1.3
Commercial Banks	21.3	(+/-)	1.3
Credit Unions	5.7	(+/-)	0.4
Savings Institutions	3.3	(+/-)	0.3

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 57 shows the value of total debit card payments.

¹⁵ PIN-based debit transactions include purchases made with debit or ATM cards at the point of sale.

Exhibit 57: Value of Total Debit Card Payments

	<u>Total Debit Value (billion)*</u>		<u>95% Confidence Interval</u>
U.S. Market	\$1,244.7	(+/-)	\$52.9
Commercial Banks	\$887.1	(+/-)	\$50.0
Credit Unions	\$220.2	(+/-)	\$12.9
Savings Institutions	\$137.4	(+/-)	\$11.5

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

The 2007 DI study estimated that the average debit card payment was \$41. This average value includes cash back at the point of sale when the cardholder initiates a PIN-based debit card transaction and requests cash back. Average value details are shown in Exhibit 58 below.

Exhibit 58: Average Value of Debit Card Payments

	<u>Total Debit Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$39	(+/-)	\$0
Commercial Banks	\$40	(+/-)	\$1
Credit Unions	\$35	(+/-)	\$1
Savings Institutions	\$41	(+/-)	\$1

3.4.2 Change in Debit Card Payments

The estimated number of total debit card payments increased 19.0 percent per year between the 2004 and 2007 DI studies.

During this period, the value of total debit card payments increased 20.3 percent per year. The growth in value was greater than the growth in the number of payments.

Exhibit 59 below summarizes differences between 2004 and 2007 DI study estimates for total debit card payments.

Exhibit 59: Change in the Number, Value and Average Value of Debit Card Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Total Debit (billion)	18.0	+/-	0.4	30.4	+/-	1.3	19.0%
Value of Total Debit (billion)	\$714.8	+/-	\$14.0	\$1,244.7	+/-	\$52.9	20.3%
Average Value	\$40	+/-	\$1	\$39	+/-	\$0	-0.2%

3.4.3 Signature-Based Debit Card Payments

The 2007 DI study estimated that 19.1 billion signature-based debit card payments were made per year at the time of the study, totaling \$754.0 billion. The average value per signature-based payment was \$39. Exhibit 60, Exhibit 61, and Exhibit 62 illustrate the number, value, and average value respectively of signature-based debit card payments.

Exhibit 60: Number of Signature-Based Debit Card Payments

	<u>Signature Debit (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Debit**</u>
U.S. Market	19.1	(+/-)	1.0	63%
Commercial Banks	13.6	(+/-)	0.9	64%
Credit Unions	3.4	(+/-)	0.3	60%
Savings Institutions	2.1	(+/-)	0.2	62%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total debit card payments within DI type that are signature debit.

Exhibit 61: Value of Signature-Based Debit Card Payments

	<u>Signature Debit Value (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Debit**</u>
U.S. Market	\$754.0	(+/-)	\$39.5	61%
Commercial Banks	\$544.7	(+/-)	\$37.6	61%
Credit Unions	\$126.6	(+/-)	\$9.2	58%
Savings Institutions	\$82.7	(+/-)	\$8.2	60%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total debit card payment value within DI type that is signature debit.

Exhibit 62: Average Value of Signature-Based Debit Card Payments

	<u>Signature Debit Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$39	(+/-)	\$0
Commercial Banks	\$40	(+/-)	\$1
Credit Unions	\$37	(+/-)	\$1
Savings Institutions	\$40	(+/-)	\$1

3.4.4 Change in Signature-Based Debit Card Payments

Signature-based debit card payments increased from 11.7 billion to 19.1 billion between the 2004 and 2007 DI studies respectively. This is a 17.7 percent increase per year (Exhibit 63).

Between the two studies, the value of signature-based debit card payments increased at a rate of 18.2 percent per year. The value of payments increased from \$456.8 billion at the time of the 2004 DI study to \$754.0 billion at the time of the 2007 DI study (Exhibit 63).

The average value per signature-based debit card payment, as seen in Exhibit 63, remained relatively unchanged at \$39 (0.4 percent annual increase between the 2004 and 2007 DI studies).

Exhibit 63: Change in the Number, Value and Average Value of Signature-Based Debit Card Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
Signature Debit (billion)	11.7	+/-	0.3	19.1	+/-	1.0	17.7%
Value of Signature Debit (billion)	\$456.8	+/-	\$12.7	\$754.0	+/-	\$39.5	18.2%
Average Value	\$39	+/-	\$1	\$39	+/-	\$0	0.4%

3.4.5 PIN-Based Debit Card Payments

The 2007 DI study estimated that, at the time of the study, 11.2 billion PIN-based debit card payments were made per year in the United States with a value of \$490.7 billion (Exhibit 64 and Exhibit 65).

Exhibit 64: Number of PIN-Based Debit Card Payments

	<u>PIN Debit (billion)*</u>		<u>95% Confidence Interval</u>	<u>% of Total Debit**</u>
U.S. Market	11.2	(+/-)	0.9	37%
Commercial Banks	7.7	(+/-)	0.8	36%
Credit Unions	2.3	(+/-)	0.3	40%
Savings Institutions	1.3	(+/-)	0.2	38%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total debit card payments within DI type that are PIN debit.

Exhibit 65: Value of PIN-Based Debit Card Payments

	<u>PIN Debit Value (billion)</u>		<u>95% Confidence Interval</u>	<u>% of Total Debit**</u>
U.S. Market	\$490.7	(+/-)	\$35.1	39%
Commercial Banks	\$342.4	(+/-)	\$33.0	39%
Credit Unions	\$93.6	(+/-)	\$9.1	42%
Savings Institutions	\$54.7	(+/-)	\$8.0	40%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total debit card payment value within DI type that is PIN debit.

The average PIN-based debit card payment was \$44 at the time of the 2007 DI study. This average includes cash-back at the point of sale. Exhibit 66 below illustrates average value details.

Exhibit 66: Average Value of PIN-Based Debit Card Payments

	<u>PIN Debit Avg. Value</u>		<u>95% Confidence Interval</u>
U.S. Market	\$44	(+/-)	\$2
Commercial Banks	\$44	(+/-)	\$3
Credit Unions	\$42	(+/-)	\$2
Savings Institutions	\$43	(+/-)	\$1

3.4.6 Change in PIN-Based Debit Card Payments

The number of PIN-based debit card payments increased 21.3 percent per year between the 2004 and 2007 DI studies from 6.3 billion to 11.2 billion respectively (Exhibit 67). The value of these payments increased from \$257.9 billion to \$490.7 billion – an increase of 23.9 percent per year (Exhibit 67).

The growth in PIN-based debit card payment value outpaced the growth in the number of payments. The average value per PIN-based debit card payment was \$3 more at the time of the 2007 DI study than it was during the 2004 DI study.

Exhibit 67 below shows the number, value, and average value details of PIN-based debit card payments for the 2004 and 2007 DI studies.

Exhibit 67: Change in the Number, Value and Average Value of PIN-Based Debit Card Payments

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
PIN Debit (billion)	6.3	+/-	0.2	11.2	+/-	0.9	21.3%
Value of PIN Debit (billion)	\$257.9	+/-	\$6.0	\$490.7	+/-	\$35.1	23.9%
Average Value	\$41	+/-	\$1	\$44	+/-	\$2	2.1%

3.5 ATM WITHDRAWALS

The 2007 DI study estimated the total annual number and value of ATM withdrawals in the United States. The study distinguished between ATM withdrawals made by cardholders at their depository institution (i.e., “on-us” withdrawals) and ATM withdrawals at ATMs operated by organizations other than the cardholder’s depository institution (i.e., foreign ATM withdrawals).

3.5.1 Total ATM Withdrawals

The 2007 DI study estimated that there were 5.8 billion ATM withdrawals in United States at the time of the study, totaling \$578.8 billion (Exhibit 68 and Exhibit 69).

Exhibit 68: Number of ATM Withdrawals

	<u>ATM Withdrawals (billion)*</u>	<u>95% Confidence Interval</u>
U.S. Market	5.8	(+/-) 0.3
Commercial Banks	3.9	(+/-) 0.3
Credit Unions	1.3	(+/-) 0.1
Savings Institutions	0.7	(+/-) 0.1

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 69: Value of ATM Withdrawals

	ATM Withdrawals Value (billion)*		95% Confidence Interval
U.S. Market	\$578.8	(+/-)	\$30.9
Commercial Banks	\$404.0	(+/-)	\$28.4
Credit Unions	\$108.0	(+/-)	\$8.5
Savings Institutions	\$66.8	(+/-)	\$8.7

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

Exhibit 70: Average Value of ATM Withdrawals

	ATM Withdrawals Avg. Value		95% Confidence Interval
U.S. Market	\$100	(+/-)	\$3
Commercial Banks	\$104	(+/-)	\$4
Credit Unions	\$86	(+/-)	\$4
Savings Institutions	\$99	(+/-)	\$3

The average ATM withdrawal was \$100 as illustrated in Exhibit 70 above. This average includes fees paid by accountholders when they make a withdrawal at foreign-owned ATMs. Such fees include surcharges paid to foreign ATM operators and foreign ATM fees paid to the accountholder's own financial institution for using an ATM operated by another entity.

3.5.2 Change in ATM Withdrawals

The number of ATM withdrawals in the United States remained relatively unchanged between the 2004 and 2007 DI studies. The number of withdrawals decreased 0.3 percent per year during the period as illustrated by Exhibit 71 below.

The value of ATM withdrawals, however, increased 5.2 percent per year from \$496.7 billion at the time of the 2004 DI study to \$578.8 billion at the time of the 2007 DI study. As

a result, the average value per ATM withdrawal increased \$15 between the two studies, a 5.6 percent increase per year (Exhibit 71).

Exhibit 71: Change in the Number, Value and Average Value of ATM Withdrawals

	<u>2004 DI Study</u>			<u>2007 DI Study</u>			<u>CAGR</u>
ATM Withdrawals (billion)	5.9	+/-	0.2	5.8	+/-	0.3	-0.3%
Value of ATM Withdrawals (billion)	\$496.7	+/-	\$13.9	\$578.8	+/-	\$30.9	5.2%
Average Value	\$85	+/-	\$2	\$100	+/-	\$3	5.6%

3.5.3 “On-Us” ATM Withdrawals

The 2007 DI study estimated that 3.6 billion on-us ATM withdrawals were made per year, totaling \$376.4 billion. On-us withdrawals, based on estimates from the 2007 DI study, represent 61 percent of all ATM withdrawals. Credit union members are least likely to use an ATM owned by his/her credit union. Only 38 percent of withdrawals made by credit union members are on-us.

Exhibit 72 and Exhibit 73 show the number and value of on-us ATM withdrawals.

Exhibit 72: Number of On-Us ATM Withdrawals

	<u>On-Us ATM Withdrawals (billion)*</u>	<u>95% Confidence Interval</u>	<u>% of Total ATM Withdrawals**</u>
U.S. Market	3.6	(+/-) 0.2	61%
Commercial Banks	2.7	(+/-) 0.2	68%
Credit Unions	0.5	(+/-) 0.0	38%
Savings Institutions	0.4	(+/-) 0.1	63%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ATM withdrawals within DI type that are on-us ATM withdrawals.

Exhibit 73: Value of On-Us ATM Withdrawals

	On-Us ATM Withdrawals Value (billion)*		95% Confidence Interval		% of Total ATM Withdrawals**
U.S. Market	\$376.4	(+/-)	\$22.6		65%
Commercial Banks	\$288.5	(+/-)	\$21.6		71%
Credit Unions	\$44.2	(+/-)	\$4.1		41%
Savings Institutions	\$43.7	(+/-)	\$5.1		65%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ATM withdrawal value within DI type that is on-us ATM withdrawals.

The average on-us ATM withdrawal was \$106 (Exhibit 74).

Exhibit 74: Average Value of On-Us ATM Withdrawals

	On-Us ATM Withdrawals Avg. Value		95% Confidence Interval
U.S. Market	\$106	(+/-)	\$3
Commercial Banks	\$108	(+/-)	\$3
Credit Unions	\$94	(+/-)	\$4
Savings Institutions	\$104	(+/-)	\$2

3.5.4 Change in “On-Us” ATM Withdrawals

The number of on-us ATM withdrawals remained relatively unchanged between the 2004 and 2007 studies. During this period, on-us ATM withdrawals grew from 3.5 billion to 3.6 billion.

The value associated with these withdrawals increased from \$308.9 billion to \$376.4 billion, a 6.8 percent increase per year. As a result, the average withdrawal increased from \$88 at the time of the 2004 DI study to \$106 at the time of the 2007 DI study, a \$12 increase.

See Exhibit 75 below for details on the change in number, value, and average value during the period.

Exhibit 75: Change in the Number, Value and Average Value of On-Us ATM Withdrawals

	2004 DI Study			2007 DI Study			CAGR
On-Us ATM Withdrawals (billion)	3.5	+/-	0.1	3.6	+/-	0.2	0.6%
Value of On-Us ATM Withdrawals (billion)	\$308.9	+/-	\$6.1	\$376.4	+/-	\$22.6	6.8%
Average Value	\$88	+/-	\$1	\$106	+/-	\$3	6.2%

3.5.5 “Foreign” ATM Withdrawals

The 2007 DI study estimate that there were 2.3 billion ATM withdrawals made per year at ATMs operated by organizations other than the cardholder’s financial institution. These foreign ATM withdrawals accounted for 39% of total ATM withdrawals as shown in Exhibit 76 below.

Foreign ATM withdrawals totaled \$202.4 billion per year at the time of the 2007 DI study. Exhibit 76 and Exhibit 77 show the number and value of foreign ATM withdrawals made by cardholders who have an account at each type of financial institution. The data below do not reflect foreign ATM withdrawals made by non-accountholders at these institutions.

Exhibit 76: Number of Foreign ATM Withdrawals

	Foreign ATM Withdrawals (billion)*	95% Confidence Interval	% of Total ATM Withdrawals**
U.S. Market	2.3	(+/-) 0.1	39%
Commercial Banks	1.2	(+/-) 0.1	32%
Credit Unions	0.8	(+/-) 0.1	62%
Savings Institutions	0.3	(+/-) 0.0	37%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ATM withdrawals within DI type that are foreign ATM withdrawals.

Exhibit 77: Value of Foreign ATM Withdrawals

	Foreign ATM Withdrawals Value (billion)*		95% Confidence Interval		% of Total ATM Withdrawals**
U.S. Market	\$202.4	(+/-)	\$11.4		35%
Commercial Banks	\$115.6	(+/-)	\$7.9		29%
Credit Unions	\$63.8	(+/-)	\$7.0		59%
Savings Institutions	\$23.0	(+/-)	\$4.3		35%

Figures may not add due to rounding.

*Annualized estimates based on March - April 2007 survey period.

**Percentage of total ATM withdrawal value within DI type that is foreign ATM withdrawals.

The 2007 DI study estimated that the average value of foreign ATM withdrawals was \$90. While this average value is less than on-us ATM withdrawals, the average foreign ATM withdrawal includes ATM surcharges paid to the accountholder's depository institution and the foreign-owned ATM operator for making the foreign ATM withdrawal. Exhibit 78 below shows the average value for foreign ATM withdrawals.

Exhibit 78: Average Value of Foreign ATM Withdrawals

	Foreign ATM Withdrawals Avg. Value		95% Confidence Interval
U.S. Market	\$90	(+/-)	\$3
Commercial Banks	\$94	(+/-)	\$5
Credit Unions	\$82	(+/-)	\$5
Savings Institutions	\$92	(+/-)	\$6

3.5.6 Change in "Foreign" ATM Withdrawals

The estimated number of foreign ATM withdrawals decreased 1.7 percent per year between the 2004 and 2007 DI studies while the associated value of these withdrawals increased 2.5 percent per year. The average value of foreign ATM withdrawals increased 4.3 percent per year during the period from \$79 to \$90 (Exhibit 79).

Exhibit 79: Change in the Number, Value and Average Value of Foreign ATM Withdrawals

	2004 DI Study			2007 DI Study			CAGR
Foreign ATM Withdrawals (billion)	2.4	+/-	0.2	2.3	+/-	0.1	-1.7%
Value of Foreign ATM Withdrawals (billion)	\$187.8	+/-	\$12.4	\$202.4	+/-	\$11.4	2.5%
Average Value	\$79	+/-	\$7	\$90	+/-	\$3	4.3%

3.6 DISTRIBUTION OF DEBITS TO DEPOSIT ACCOUNTS BY INSTITUTION TYPE

Exhibit 80 below compares the estimates for each of the five transaction types. Electronic transactions account for almost two-thirds (65%) of total transactions.

Exhibit 80: Summary of the Estimated Number of DDA Transactions

	Total Transactions (billion)*	95% Confidence Interval		% of Total Transactions
Check	29.8	(+/-)	0.6	35%
ACH	18.1	(+/-)	0.6	22%
Sig. Debit	19.1	(+/-)	1.0	23%
PIN Debit	11.2	(+/-)	0.9	13%
ATM	5.8	(+/-)	0.3	7%

*Annualized estimates based on March - April 2007 survey period.

3.7 DDA TRANSACTION MIX BY TYPE OF DEPOSITORY INSTITUTION

An important attribute of the 2007 DI study is its ability to estimate transactions by market segment. As Exhibit 81 illustrates, commercial banks paid more checks than credit unions or savings institutions at the time of the 2007 DI study. Checks accounted for 35.4 percent of DDA debits at commercial banks compared to 24.1 percent at credit unions and 29.1 percent at savings institutions. ACH is used more often at commercial banks as well, with 22.7% of DDA debits as a result of an ACH transaction.

Other electronic transactions are most prevalent at credit unions and savings institutions. At credit unions, about half (50.1 percent) of all debits are a result of a debit card transaction, and 61.1 percent of all transactions are card based. Similarly, 51 percent of all DDA debits are card based at savings institutions.

Exhibit 81: Distribution of DDA Transactions by Type of Institution

	Checks*	ACH	Signature Debit	PIN Debit	ATM	Total
U.S. Market	29.8	18.1	19.1	11.2	5.8	84.0
	35.4%	21.5%	22.8%	13.4%	6.9%	100%
	(0.6)	(0.6)	(1.0)	(0.9)	(0.3)	
Commercial Banks	24.4	14.8	13.6	7.7	3.9	64.4
	37.8%	23.0%	21.1%	12.0%	6.0%	100%
	(0.5)	(0.5)	(0.9)	(0.8)	(0.3)	
Credit Unions	2.7	1.7	3.4	2.3	1.3	11.4
	24.1%	14.8%	30.3%	19.8%	11.0%	100%
	(0.1)	(0.1)	(0.3)	(0.3)	(0.1)	
Savings Institutions	2.3	1.6	2.1	1.3	0.7	7.9
	29.1%	20.0%	26.3%	16.1%	8.6%	100%
	(0.3)	(0.2)	(0.2)	(0.2)	(0.1)	

Note: Each percentage is +/- the number below it in parentheses, the half-width of the 95% confidence interval. Annualized estimates based on March - April 2007 survey period.

*The U.S. Market estimate for checks includes U.S. Treasury Checks (0.2 billion) and Postal Money Orders (0.2 billion).

APPENDICES

Appendix A: Survey Instrument (*Long Form*)

(Follow this link.)

Appendix B: Survey Instrument (*Short Form*)

(Follow this link.)

Appendix C: Registration Form

(Follow this link.)

Appendix A:

Survey Instrument (*Long Form*)

The Federal Reserve Payments Study



Survey Period: March – April, 2007

A survey of the number and dollar value of transactions by:

- ▶ Check
- ▶ ACH
- ▶ Debit Card
- ▶ ATM

>> Please Respond By: Friday, May 18 <<

Response Options: Online www.paymentsstudy.com
Institution ID: *****
Password: *****

Mail Federal Reserve
Payments Study c/o ICR
53 W. Baltimore Pike
Media, PA 19063

Fax (484) 840-4599

Questions? Call Us: Phone (800) 609-5944

General Instructions

About the study... The Federal Reserve Payments Study is a national survey of financial institutions about payments and withdrawals from transaction accounts (demand deposit and NOW accounts). The survey gathers data about check, ACH, and debit card payments as well as cash withdrawals from ATMs that post to transaction accounts during March and April, 2007. Data from your response will contribute to estimates of the national number of payments and withdrawals made by these transaction methods. The Federal Reserve will compare the results of this study to those of similar studies in 2001 and 2004 to document how the U.S. payments system is changing.

Confidentiality... Any information you provide for this study is strictly confidential. Individual responses to the survey will not be shared with the public or the industry.

Your Participation... As a participant in a random sample survey, your responses may be used to represent other institutions like yours that were not selected for the study. To achieve the most reliable results, it is important that you respond completely and accurately. **If your institution outsources** payments processing to another organization, please request the necessary data from that organization or provide them with the survey so they may respond on your behalf.

Please leave no item blank ... There are **three possible ways to answer** a survey question:

Enter a Value: The actual numeric value of the data element.

Enter a Zero: When the calculated value actually equals zero or if your financial institution does not provide the payment alternative to your customers. Please do not enter a non-numeric value, e.g., "NA" or "NR."

Enter "NR" (Not Reported): If your institution has volume of the type being measured, but you are unable to report an accurate figure that reflects volumes across your entire organization / customer base. Please do not enter "NA."

Reporting after a merger... If you acquire or merge with an institution, or begin processing combined volume, during the March-April reference period, please identify that institution in *Item 2* of the next section and report data for the combined enterprise as if the merger had occurred before March 1, 2007.

If you cannot provide combined data please contact us at (800) 609-5944.

Definitions and examples... Definitions and examples can be found in the Glossary. If the Glossary is no longer available to you in hardcopy, please visit www.paymentsstudy.com to download a PDF copy or to use the web version online.

Institution Profile

This is an enterprise-wide survey... According to our records, transaction volume data from the following affiliated institutions should be included in your response (unless you indicate their exclusion below).

Throughout this survey instrument, **“your institution” refers to the entire enterprise** including all affiliates.

Please contact us at (800) 609-5944 if you have any questions or concerns about the items on this page.

1) Please indicate if any of these affiliates are excluded from your response.

Name	City	State	Approximate Total Deposit Balances (in millions of dollars)*	Which data are missing?			
				Check	ACH	Debit Card	ATM
<Affiliate name>	<City>	<ST>	<Total Deposits (MM)>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Deposit information is based on 2nd Quarter 2006.

2) Please list any affiliates not identified above that are included in your response.

Name	City	State

Check Payments

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

1) "Payor Bank" Checks = 1a + 1b

Include: All checks (and/or "share drafts") drawn on your institution. Include **1a** and **1b** below. Include controlled disbursement checks, if applicable. Include checks you subsequently return unpaid (i.e., outgoing returns).

Do Not Include: Checks drawn on other institutions (i.e., transit checks). Be sure to exclude non-check documents, such as deposit slips, G/L tickets, etc., if possible.

	March	April
Number		
Value (\$)		

1a) Inclearings and "On-Us" Checks Deposited by Correspondent Customers

Include: Checks drawn on your institution for which another institution is "bank of first deposit." Include checks received via clearinghouses, from the Fed, or in direct presentment for same-day settlement. Include controlled disbursement checks if applicable.

Do Not Include: Checks for which you are the "bank of first deposit" or checks drawn on other institutions. Be sure to exclude non-check documents if possible.

Note: This is a subset of item 1 above. Do not double-count electronic check presentment (ECP) items with paper to follow.

	March	April
Number		
Value (\$)		

1b) "On-Us" Checks for Which You are the "Bank of First Deposit"

Include: All checks drawn on your institution for which you are the "bank of first deposit." This includes checks cleared between your affiliates. These items can be received from any of several deposit channels (see glossary). Include controlled disbursement checks if applicable.

Do Not Include: Any checks drawn on another institution. In particular, exclude checks deposited at your institution and sent to another institution for collection. Do not include Inclearings or "On-Us" Correspondent Deposits (**1a** above). Be sure to exclude non-check documents if possible.

	March	April
Number		
Value (\$)		

2) Were you able to exclude non-check documents from the volumes reported in items 1a and 1b above?

Non-Check documents are "other" items processed on check sorters, e.g., batch headers, general ledger tickets, cash-in or cash-out tickets, deposit tickets, etc.

- Yes
- No
- Don't Know

3) Did you include checks deposited at one affiliate of your institution but drawn on another affiliate of your institution in 1b rather than 1a?

Some institutions call this "on-we" volume, which should be reported entirely under **1b** if possible.

- Yes
- No
- Not applicable
- Don't Know

Comments:

Checks Received by Format

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

4) Inclearings and "On-Us" Checks Deposited by Correspondent Customers (1a) = 4a + 4b

Note: This question classifies data reported in item 1a above according to whether presentment occurred to you or your processor via Paper (4a below) or Truncation (4b below).

Please re-enter data from item 1a above ►

	March	April
Number	<input type="text"/>	<input type="text"/>
Value (\$)	<input type="text"/>	<input type="text"/>

4a) Paper = 4ai + 4aii + 4aiii

Include: Inclearings and "On-Us" Correspondent Deposits received as Original Paper check (4ai below), Substitute Check / IRD (4aii below), or ECP with Paper to Follow (4aiii below).

Note: This is a subset of item 4 above.

	March	April
Number	<input type="text"/>	<input type="text"/>
Value (\$)	<input type="text"/>	<input type="text"/>

4ai) Original Paper

Include: Inclearings and "On-Us" Correspondent Deposits received as the original checks.

Do Not Include: Inclearings and "On-Us" Correspondent Deposits received as Substitute Check / IRD (4aii below).

Note: This is a subset of item 4a above. If you are unable to distinguish between Original Paper check (4ai) and Substitute Check / IRD (4aii), report "NR" for this item (4ai).

	March	April
Number	<input type="text"/>	<input type="text"/>
Value (\$)	<input type="text"/>	<input type="text"/>

4aii) Substitute Check / IRD

Include: Inclearings and "On-Us" Correspondent Deposits received as Substitute Check / IRD (Image Replacement Document).

Note: This is a subset of item 4a above.

	March	April
Number	<input type="text"/>	<input type="text"/>
Value (\$)	<input type="text"/>	<input type="text"/>

4aiii) Electronic Check Presentment (ECP) with Paper to Follow

Include: Inclearings and "On-Us" Correspondent Deposits received as ECP items with paper to follow and for which receipt of the paper items constitutes presentment.

Do Not Include: The number of files. We are measuring the number/value of items.

Note: This is a subset of item 4a above. Do not double-count ECP items with paper to follow by also including the volume and dollar value of these items as Original Paper (4ai above).

	March	April
Number	<input type="text"/>	<input type="text"/>
Value (\$)	<input type="text"/>	<input type="text"/>

Comments:

Checks Received by Format (cont.)

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

4b) Truncation = 4bi + 4bii

Include: Inclearings and "On-Ups" Correspondent Deposits received as ECP items with no paper to follow. This includes ECP items with accompanying images or for which images are available on demand from an archive (4bi below) and ECP items that your institution receives with MICR line data only (4bii below).

	March	April
Number		
Value (\$)		

4bi) Image Exchange

Include: ECP items received with accompanying images (e.g., ECPi, ICL) or for which images are available on demand from an archive.

	March	April
Number		
Value (\$)		

Note: This is a subset of item 4b above.

4bii) Electronic Check Presentment – Interbank Truncation

Include: Inclearings and "On-Ups" Correspondent Deposits received as ECP items with no paper to follow, no accompanying images, and no access to the items in an image archive. Only the MICR line data are received.

	March	April
Number		
Value (\$)		

Note: This is a subset of item 4b above.

Comments:

Check Deposits

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

5) Deposited Checks = 5a + 5b + all other deposited checks

Include: All checks deposited at your institution. This includes checks that are drawn on accounts at your institution (i.e., "On-Ups" Checks for Which You are the "Bank of First Deposit," 1b above and "On-Ups" Correspondent Deposits) and checks drawn on other financial institutions (i.e., transit checks). These items can be received from any of several deposit channels (see glossary).

	March	April
Number		
Value (\$)		

Note: Include checks itemized in 5a and 5b below. This is the only section in the survey in which the volumes you report are not necessarily payments by your accountholders.

5a) Client Image Capture / Deposits

Include: Checks deposited by your customer by means of the customer's capturing and transmitting an image of each check for deposit. The paper check is truncated by the customer at the point of capture/deposit.

Do Not Include: BOC (Back Office Conversion) ACH entries.

Note: This is a subset of item 5 above.

	March	April
Number		
Value (\$)		

5b) Branch or ATM Image Capture

Include: Checks deposited at your branch or ATM, scanned, and transmitted as images for subsequent processing. The paper checks are truncated at the point of deposit.

Do Not Include: Items scanned in the branch or ATM if paper is sent to your check processing operations for processing rather than being truncated at the point of deposit.

Note: This is a subset of item 5 above.

	March	April
Number		
Value (\$)		

Comments:

Check Returns

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

6) Returned Checks ("Outgoing") = 6a + 6b

Include: All checks drawn on your institution that you return unpaid, whether to another institution (6a below) or to your customer (6b below).

Do Not Include: Checks drawn on another FI returned to you unpaid.

	March	April
Number		
Value (\$)		

6a) Inclearings Returned and "On-Ups" Checks Deposited by Correspondent Customers Returned

Include: Inclearings and "On-Ups" Correspondent Deposits (1a above) that you return unpaid. These checks are drawn on your institution but are returned to another institution unpaid.

Note: This is a subset of item 6 above.

	March	April
Number		
Value (\$)		

6b) "On-Ups" Checks Returned for Which You are the "Bank of First Deposit"

Include: All "On-Ups" Checks for Which You are the "Bank of First Deposit" (1b above) that you return unpaid. These are a subset of items charged back to depositing customers. Some institutions call these "charge backs."

Do Not Include: Checks that you return to another institution or checks drawn on another institution returned to you unpaid.

Note: This is a subset of item 6 above.

	March	April
Number		
Value (\$)		

Comments:

ACH: Network Entries

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

Network ACH Entries

A Network ACH entry is one that is cleared through a network operator, i.e., the Fed or EPN. This would **not include** ACH entries cleared directly between your institution and another (i.e., Direct Exchange ACH entries). Please consider all Network ACH entries that result in payments from accounts at your institution, including those for which you are both the ODFI and RDFI (i.e., Network On-Us ACH entries).

Note: See glossary for definitions of ODFI (Originating Depository Financial Institution) and RDFI (Receiving Depository Financial Institution).

1) ACH Credits Your Institution Originates Through the Fed or EPN

Include: All Network ACH Credit entries for which you are the ODFI. Include returns. Include Network On-Us Credit entries for which you are both the ODFI and RDFI. See above for definition of "Network" entry.

Do Not Include: ACH entries received from other institutions; debits originated; Direct Exchange Entries, such as ACH Credits Your Institution Originates Directly to Another Institution (3 below); In-House On-Us Entries, such as In-House On-Us Credits Your Institution Originates (5 below); addenda records; or zero-dollar entries.

	March	April
Number		
Value (\$)		

1a) Does your institution originate Network On-Us ACH Credit entries?

These are credit entries for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution. If applicable, they should be reported in item 1 above. (**Note:** "Your institution" refers to all affiliates.)

- Yes
- No
- Don't Know

2) ACH Debits Your Institution Receives Through the Fed or EPN

Include: All Network ACH Debit entries for which you are the RDFI. Include returns. Include Network On-Us Debit entries for which you are both the ODFI and RDFI. See above for definition of "Network" entry.

Do Not Include: ACH entries sent to other institutions; credits received; Direct Exchange Entries, such as ACH Debits Your Institution Receives Directly from Another Institution (4 below); In-House On-Us Entries, such as In-House Debits Your Institution Originates (6 below); addenda records; or zero-dollar entries.

	March	April
Number		
Value (\$)		

2a) Does your institution originate Network On-Us ACH Debit entries?

These are debit entries for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution. If applicable, they should be reported in item 2 above. (**Note:** "Your institution" refers to all affiliates.)

- Yes
- No
- Don't Know

Comments:

ACH: Direct Exchange Entries

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. **“Your institution” refers to the entire enterprise** including all affiliates.

Direct Exchange ACH Entries

A Direct Exchange ACH entry is one that is exchanged directly between your institution and another. Some institutions call these “Direct Send” entries. Please consider all Direct Exchange ACH entries that result in payments from accounts at your institution.

Note: See glossary for definitions of ODFI (Originating Depository Financial Institution) and RDFI (Receiving Depository Financial Institution).

3) ACH Credits Your Institution Originates Directly to Another Institution

Include: All Direct Exchange ACH Credit entries for which you are the ODFI. Include returns. See above for definition of “Direct Exchange” entry.

Do Not Include: ACH entries received from other institutions; debits originated; Network Entries originated, such as ACH Credits Your Institution Originates Through the Fed or EPN (1 above); In-House On-Ups Entries, such as In-House On-Ups Credits Your Institution Originates (5 below); addenda records; or zero-dollar entries.

	March	April
Number		
Value (\$)		

4) ACH Debits Your Institution Receives Directly from Another Institution

Include: All Direct Exchange ACH debit entries for which you are the RDFI. Include returns. See above for definition of “Direct Exchange” entry.

Do Not Include: ACH entries sent to other institutions; credits received; Network Entries received, such as ACH Debits Your Institution Receives Through the Fed or EPN (2 above); In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 below); addenda records; or zero-dollar entries.

	March	April
Number		
Value (\$)		

Comments:

ACH: In-House On-U's Entries

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

In-House On-U's ACH Entries (Cleared within Your Institution and Not through the Fed or EPN)

An In-House On-U's ACH entry is one for which you are both the ODFI and the RDFI without the use of a network, such as the Fed or EPN, for clearing or settlement. On-U's entries result in the movement of funds from one account to another within your institution.

Note: See glossary for definitions of ODFI (Originating Depository Financial Institution) and RDFI (Receiving Depository Financial Institution).

5) In-House On-U's Credits Your Institution Originates

Include: All ACH credit entries not cleared through the Fed or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include: ACH entries sent to or received from other institutions, In-House On-U's Debits Your Institution Originates (6 below), addenda records, or zero-dollar entries. If possible, be sure to exclude offset entries or entries used to post non-ACH payments to your DDA system using the ACH platform.

Note: "Your institution" includes all affiliates.

	March	April
Number		
Value (\$)		

6) In-House On-U's Debits Your Institution Originates

Include: All ACH debit entries not cleared through the Fed or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include: ACH entries sent to or received from other institutions, In-House On-U's Credits Your Institution Originates (5 above), addenda records, or zero-dollar entries. If possible, be sure to exclude offset entries or entries used to post non-ACH payments to your DDA system using the ACH platform.

Note: "Your institution" includes all affiliates.

	March	April
Number		
Value (\$)		

Comments:

ACH Processing Practices

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

7) Do you originate offset entries? (Also known as originating "balanced files.")

Example: You originate ACH credits on behalf of a corporate customer for the purpose of payroll. In order to fund the payroll credits you originate a single on-us debit (i.e., debit offset) to an account of the customer.

- Yes
- No (Skip to 8)
- Don't Know (Skip to 8)

7a) If yes, were you able to exclude these entries from the totals you reported for the items listed below?

	Yes	No	Don't Know
(Item 1) ACH Credits Your Institution Originates Through the Fed or EPN.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 2) ACH Debits Your Institution Receives Through the Fed or EPN.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 5) In-House On-Ups Credits Your Institution Originates.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 6) In-House On-Ups Debits Your Institution Originates.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8) Do you post transactions from other payment instruments to your DDA system using your ACH platform?

Explanation: Rather than maintaining an interface between your institution's DDA system and a particular transaction processing system, e.g., signature-based debit card, wire transfer, etc., your institution creates a separate ACH entry to post each of those non-ACH transactions to DDA.

- Yes
- No (Skip to 9)
- Don't Know (Skip to 9)

8a) If yes, were you able to exclude these entries from the totals you reported for the items listed below?

	Yes	No	Don't Know
(Item 1) ACH Credits Your Institution Originates Through the Fed or EPN.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 2) ACH Debits Your Institution Receives Through the Fed or EPN.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 5) In-House On-Ups Credits Your Institution Originates.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Item 6) In-House On-Ups Debits Your Institution Originates.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

ACH: Check Conversion Entries

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

9) ACH Debit Entries Your Institution Receives Through the Fed or EPN by Selected SEC Codes: ARC, POP, BOC

Include: All Network ACH Debit entries of type ARC, POP or BOC only for which you are the RDFI. See above for definition of "Network" entries.

Do Not Include: ACH entries sent to other institutions; credits received; Direct Exchange Entries, such as ACH Debits Your Institution Receives Directly from Another Institution (4 above or 10 below); In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 above or 11 below); addenda records; zero-dollar entries; or entries of any other SEC code.

Note: This is a subset of item 2 above.

	March	April
Number		
Value (\$)		

10) ACH Debit Entries Your Institution Receives Directly from Another Institution by Selected SEC Codes: ARC, POP, BOC

Include: All Direct Exchange ACH Debit entries of type ARC, POP, or BOC only for which you are the RDFI. See above for definition of "Direct Exchange" entries.

Do Not Include: ACH entries sent to other institutions, credits received, Network Entries received, such as ACH Debits Your Institution Receives Through the Fed or EPN (2 above or 9 above); In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 above or 11 below); addenda records, zero-dollar entries, or entries of any other SEC code.

Note: This is a subset of item 4 above.

	March	April
Number		
Value (\$)		

11) In-House On-Ups Debits Originated by Selected SEC Codes: ARC, POP, BOC

Include: All In-House ACH Debit entries of type ARC, POP, or BOC only not cleared through the Fed or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include: ACH entries sent to or received from other institutions, In-House On-Ups Credits Your Institution Originates (5 above), addenda records, zero-dollar entries, or entries of any other SEC code.

Note: This is a subset of item 6 above.

	March	April
Number		
Value (\$)		

Comments:

Debit Card Transactions

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

1) Offline (Signature-Based) Debit Card Transactions

Include: All debit card transactions that carry the Visa, MasterCard, or Discover brands for which you were the card issuing institution. Include both consumer and business debit card transactions.

Do Not Include: Online (PIN-based) POS Transactions (2 below) or credit card transactions.

	March	April
Number		
Value (\$)		

2) Online (PIN-Based) POS Transactions

Include: All Online (PIN-based) POS Transactions for which you are the card issuing institution. This includes PIN-authenticated transactions made either by PIN-enabled debit cards or by ATM cards used at the point of sale.

Do Not Include: ATM withdrawals, Offline (Signature-Based) Debit Card Transactions (1 above), or credit card transactions.

	March	April
Number		
Value (\$)		

Comments:

ATM Withdrawals

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 1 of the *Institution Profile* section on page 2. "Your institution" refers to the entire enterprise including all affiliates.

1) ATM Withdrawals

(Your Customer, Any ATM) = 1a + 1b

Include: All cash withdrawals made by your customers from any ATM, including those at your ATMs (1a below) or "foreign" ATMs (1b below). A "foreign" ATM is an ATM operated by another financial institution or ATM operator.

Do Not Include: Withdrawals by another institution's customers, deposit transactions, or other non-withdrawal transactions (e.g., inquiries, statement print-out, purchases of stamps, tickets, etc.)

	March	April
Number		
Value (\$)		

1a) On-Us ATM Withdrawals

(Your Customer, Your ATM)

Include: All cash withdrawals made by your customers at your ATMs.

Do Not Include: Withdrawals by cardholders other than your customers, withdrawals by your customers at "foreign" ATMs, or non-withdrawal transactions by your customers.

Note: This is a subset of item 1 above. Please count only withdrawals by your customers at your ATMs.

	March	April
Number		
Value (\$)		

1b) Your Customer, "Foreign" ATM

Include: All cash withdrawals made by your customers at "foreign" ATMs.

Do Not Include: Any transactions at your ATMs, whether by your customer or another cardholder, or any non-withdrawal transactions by your customers.

Note: This is a subset of item 1 above. Please count only withdrawals by your customers at ATMs operated by financial institutions or ATM operators.

	March	April
Number		
Value (\$)		

Comments:

The Federal Reserve Payments Study



Survey Period: March – April, 2007

A survey of the number and dollar value of transactions by:

- ▶ Check
- ▶ ACH
- ▶ Debit Card
- ▶ ATM

---- Glossary with Examples ----

Revised February 27, 2007

Clarification

Please note that substitute checks / IRDs are identifiable by a "4" in position 44 of the MICR line, not a "2" as stated in item 4aii of the original glossary.

Glossary with Examples

General Terminology

Your Institution –

The sampled financial institution at its highest organizational level (e.g., holding company, if applicable), including all affiliates.

Note: If you represent a third-party processor responding on behalf of a financial institution that was sampled for this study, please ensure that your response reflects transaction activity of accounts at the sampled institution only and does not include data from other institutions for which you process payments.

Check Payments

GENERAL TERMINOLOGY

Check –

A negotiable instrument drawn on a financial institution. For this study, please follow these guidelines:

Checks include...	Checks do <u>not</u> include...
<ul style="list-style-type: none">▪ Checks written by individuals, business or government entities▪ Traveler's checks drawn on your institution▪ Money orders drawn on your institution▪ Cashier's checks drawn on your institution▪ Official checks drawn on your institution▪ Teller's checks drawn on your institution▪ Payable through drafts drawn on your institution▪ Truncated checks (i.e., ECP file items)	<ul style="list-style-type: none">▪ Deposit slips▪ General ledger tickets▪ Other non-check documents, such as payment coupons▪ Courtesy checks on credit card accounts

Bank of First Deposit –

The first financial institution in which a check is deposited. The “bank of first deposit” may be a bank or credit union.

“On-Us” Correspondent Deposits –

Checks drawn on your institution that are deposited at your institution by a correspondent banking customer, which is the “bank of first deposit.”

Electronic Check Presentment (ECP) –

An electronic record of the check MICR line that is suitable for posting to a customer's account. ECP is governed by check law and is a subset of Check Inclearings (1a).

SURVEY ITEMS

1) “Payor Bank” Checks

All checks (or “share drafts”) for which your institution is the payor bank as defined by Reg. CC*. Include Inclearings and “On-Us” Checks Deposited by Correspondent Customers (**1a** below) and “On-Us” Checks for Which You are the “Bank of First Deposit” (**1b** below). Include controlled disbursement items, if applicable. Include items you subsequently return unpaid to the “bank of first deposit” (i.e., outgoing returns) or its designated processor. Also include official checks written by your institution (as opposed to your customers or members).

* http://www.access.gpo.gov/nara/cfr/waisidx_06/12cfr229_06.html

Do Not Include:

- Checks drawn on other institutions (i.e., transit items).
- Checks that you receive as a “pass through correspondent” for which another institution is the payor bank.
- Non-check documents, such as batch headers, general ledger tickets, cash-in or cash-out tickets, deposit tickets, etc., that are processed on check sorters.

Note: Do not double-count electronic check presentment (ECP) items if you receive an electronic file with paper to follow.

Also, if you perform proof-of-deposit processing, **do not over-report** Payor Bank volume by calculating it as the difference between prime pass and transit item volumes. Prime pass includes non-check documents that you should avoid counting in Payor Bank Checks.

► **Example:** Your customers write checks to pay utility bills. If you have depository relationships with the utilities, some of these checks will be “On-Us” Deposited Checks. Others will be presented to you as Inclearings from other financial institutions through the Federal Reserve, local clearinghouse or directly for same-day settlement.

☞ “Payor Bank” Checks = Inclearings and “On-Us” Checks Deposited by Correspondent Customers (**1a**) + “On-Us” Checks for Which You are the “Bank of First Deposit” (**1b**).

1a) Inclearings and “On-Us” Checks Deposited by Correspondent Customers

Checks drawn on your institution for which another institution is the “bank of first deposit.” Include checks received via clearinghouses, from the Federal Reserve, or in direct presentment for same-day settlement. Include checks drawn on your institution for which a correspondent deposit customer is the “bank of first deposit.” Included controlled disbursement checks if applicable.

Do Not Include:

- Checks for which you are the “bank of first deposit” or checks drawn on other institutions:
 - Checks drawn on another financial institution that are deposited at your institution (i.e., outbound transit items).
 - Checks drawn on your institution for which you are also the “bank of first deposit” (i.e., “On-Us” Checks for Which You are the “Bank of First Deposit,” **1b** below).
- Non-check documents that are processed on check sorters such as batch headers, general ledger tickets, cash-in or cash-out tickets, deposit tickets, etc.

Note: This is a subset of item **1** above. Do not double-count electronic check presentment (ECP) items if you receive an electronic file with paper to follow.

► **Example:** Your customer writes a check to pay for her groceries. The grocery store has a depository relationship with another financial institution. After processing the grocer’s deposit, that institution (i.e., the “collecting bank”) presents the check, through the Federal Reserve, local clearinghouse or directly for same-day settlement, to your institution for payment.

1b) “On-Us” Checks for Which You are the “Bank of First Deposit”

All checks drawn on your institution for which you are the “bank of first deposit.” This includes all checks cleared between your affiliates. These items are a subset of total deposited checks, which include, but are not limited to, the following:

- Checks deposited in your branches.
- Checks received from other internal departments (e.g., wholesale or retail lockbox, currency / coin vault operations, and loan payments processing operations).
- Checks deposited by corporate clients (typically in the evening) directly to your item processing operations (e.g., pre-encoded or un-encoded deposits or remote capture deposits).

Do Not Include:

- Inclearings received from the Federal Reserve, a clearinghouse, or another institution (e.g., same-day settlement).
- Transit or non-check documents (e.g., general ledger tickets, cash-in or cash-out tickets, deposit tickets, etc.).
- Checks deposited by correspondent customers, even if they are drawn on your institution. These are “On-Us” Correspondent Deposits and should be counted in 1a above.

Note: This is a subset of item 1 above.

- ▶ **Example:** Your customer writes a check to her babysitter, who also happens to be your customer. When the check is deposited by the babysitter, you are both the collecting institution and the paying institution on this item.

Checks Received by Format

4) Inclearings and “On-Us” Checks Deposited by Correspondent Customers (Same as 1a above)

- ↻ Inclearings and “On-Us Checks Deposited by Correspondent Customers = Paper Items (4a) + Truncated Items (4b).

4a) Paper

Inclearings and “On-Us” Correspondent Deposits received as Original Paper check, Substitute Check / IRD (Image Replacement Document), or ECP (Electronic Check Presentment) with Paper to Follow.

Note: This is a subset of item 4 above.

- ↻ Paper Items = Original Paper Checks (4ai) + Substitute Checks (4aii) + ECP with Paper to Follow (4aiii).

4ai) Original Paper

Inclearings and “On-Us” Correspondent Deposits received by your institution as the original paper check.

Do Not Include: Items received as Substitute Check / IRD (4aii below)

Note: This is a subset of item 4a above. If you are unable to distinguish between Original Paper check (4ai) and Substitute Check / IRD (4aii), you should report “NR” for both items, 4ai and 4aii, and report the combined total plus ECP with Paper to Follow (4aiii) under Paper (4a).

- ▶ **Example:** Your customer writes a check to pay for goods at a retailer. The retailer has a depository relationship with another financial institution. After processing the retailer’s deposit, that institution (i.e., the “collecting bank”) presents the original paper check, through the Federal Reserve, local clearinghouse or directly for same-day settlement, to your institution for payment.



4a) Substitute Check / IRD

Inclearings and “On-Us” Correspondent Deposits received by your institution as a substitute check / IRD (Image Replacement Document). A substitute check drawn on your institution and received in your inclearings and “On-Us” Correspondent Deposit stream will contain a “4” in position 44 (the External Processing Code field) of the MICR line to indicate that it is a substitute check and not the original paper item.

Note: This is a subset of item **4a** above.

► **Example:** Your customer writes a check to pay his physician. The physician’s office has a depository relationship with another financial institution and uses a remote image capture product to deposit the check electronically and truncate the original item. That financial institution (i.e., the “collecting bank”) creates a substitute check and presents it through the Federal Reserve, local clearinghouse or directly for same-day settlement, to your institution for payment.

4a)iii) Electronic Check Presentment (ECP) with Paper to Follow

Inclearings and “On-Us” Correspondent Deposits received by your institution in electronic check presentment (ECP) file(s) with paper to follow. Per ECCHO rules, presentment occurs when the paying bank receives the paper item.

Do Not Include: The number of ECP files. We are measuring the number and dollar value of items.

Note: This is a subset of item **4a** above. Be sure not to double-count ECP items with paper to follow by also including the volume and dollar value of these items as Original Paper (**4ai** above).

► **Example:** Your customer writes a check to pay his utility bill. The utility company has a depository relationship with another financial institution. That financial institution (i.e., the “collecting bank”) transmits MICR line data from the check as part of an ECP file to your institution. The collecting bank subsequently presents the physical item for payment. The exchange follows ECCHO rules.

4b) Truncation

Inclearings and “On-Us” Correspondent Deposits received as electronic check presentment (ECP) items with no paper to follow. Truncation includes ECP items with accompanying images or for which images are available on demand from an archive (**4bi** below) and ECP items that your institution receives with MICR line data only (**4bii** below).

Note: This is a subset of item **4** above.

☞ Truncated Items = Image Exchange (**4bi**) + ECP Interbank Truncation (**4bii**).

4bi) Image Exchange

Image exchange is a form of electronic check presentment (ECP) in which you, the paying bank, receive as part of your Inclearings and “On-Us” Correspondent Deposits either an ECP file with accompanying images or an ECP file with the ability to retrieve corresponding check images from an image archive.

Note: This is a subset of item **4b** above. Image exchange based on ECP files with accompanying images is commonly referred to as ECPi or ICL (image cash letter).

► **Example:** Your customer writes a check to pay his rent. The landlord has a depository relationship with another financial institution. That institution presents the check for payment through an image exchange network in which your institution also participates. The collecting bank sends an image cash letter (ICL) or ECP file with accompanying images (i.e., ECPi). Paper does not follow.

4bii) Electronic Check Presentment – Interbank Truncation

Inclearings and “On-Us” Correspondent Deposits received as ECP items with no paper to follow, no accompanying images, and no access to the items in an image archive. Only the MICR line data are received.

Note: This is a subset of item **4b** above.

► **Example:** Your customer writes a check to pay his rent. The landlord has a depository relationship with another financial institution that presents the check for payment through the Federal Reserve. At your institution’s request, the Federal Reserve truncates the check and sends MICR line data only through an ECP file to your institution for collection. Presentment occurs when your institution receives the MICR line data. Paper does not follow.

Check Deposits

5) Deposited Checks

All checks deposited at your institution. This includes checks that are drawn on accounts at your institution (i.e., “On-Us” Checks for Which You are the “Bank of First Deposit,” **1b** above and “On-Us” Correspondent Deposits) and checks drawn on other financial institutions (i.e., outbound transit checks). Deposited checks include, but are not limited to, the following:

- Checks deposited in your branches.
- Checks received from other internal departments (e.g., wholesale or retail lockbox, currency / coin vault operations, and loan payments processing operations).
- Checks deposited by corporate clients (typically in the evening) directly to your item processing operations (e.g., pre-encoded or un-encoded deposits or remote capture deposits).
- Checks deposited by correspondent banking customers.

Note: Include checks itemized in the subcategories **5a** and **5b** below. This is the only section in the survey in which the volumes you report are not necessarily payments by your accountholders.

- Deposited Checks = Client Image Capture (**5a**) + Branch or ATM Capture (**5b**) + all other deposited checks (*not explicitly measured by this study*).

5a) Client Image Capture / Deposits

Checks deposited by your customer by means of the customer’s capturing and transmitting an image of each check for deposit. The paper check is truncated by the customer at the point of capture/deposit.

Do Not Include: BOC (Back Office Conversion) ACH entries.

Note: This is a subset of item **5** above.

- ▶ **Example:** A customer writes a check to pay for her physician. She may or may not have a depository relationship with your institution. The physician’s office, which does have a depository relationship with your institution, captures the image of the check and transmits the image to your institution for deposit. You are the collecting bank for this item.

5b) Branch or ATM Image Capture

Checks that are deposited at your branch or ATM, scanned, and transmitted as images for subsequent processing. The paper checks are truncated at the point of deposit.

Do Not Include: Items scanned in the branch or ATM if paper is sent to your check processing operations for processing rather than being truncated at the point of deposit.

Note: This is a subset of item **5** above.

- ▶ **Example:** Your customer deposits her paycheck at an ATM located at your branch. The check is scanned and truncated in the back office of the branch. The image is then sent to your check processing operations for processing.

Check Returns

6) Returned Checks (“Outgoing”)

All checks drawn on your institution that you return unpaid, whether to another institution (**6a** below) or to your customer (**6b** below).

Do Not Include: Checks drawn on another financial institution returned to you unpaid.

- ▶ **Example:** Your customer writes a check that is deposited (at your institution or another) and presented for payment. Your customer’s account has insufficient funds and no overdraft protection. You return the item unpaid.

- Returned Checks (“Outgoing”) = Inclearings Returned and “On-Us Checks Deposited by Correspondent Customers Returned (**6a**) + “On-Us” Checks Returned for Which You are the “Bank of First Deposit” (**6b**).

6a) Inclearings Returned and “On-Ups” Checks Deposited from Correspondent Customers Returned

All Inclearings and “On-Ups” Correspondent Deposits (1a above) that you return unpaid. These checks are drawn on your institution but returned to another institution unpaid.

Note: This is a subset of item 6 above.

► **Example:** Your customer writes a check that is deposited at another institution and presented for payment. Your customer’s account has insufficient funds and no overdraft protection. You return the item unpaid to the collecting bank.

6b) “On-Ups” Checks Returned for Which You are the “Bank of First Deposit”

All “On-Ups” Checks for Which You are the “Bank of First Deposit” (1b above) that you return unpaid. These are a subset of items charged back to depositing customers. Some institutions call these “charge backs.”

Do Not Include: Checks that you return to another institution or checks drawn on another institution returned to you unpaid.

Note: This is a subset of item 6 above.

► **Example:** Your customer writes a check to his landlord, who also happens to be your customer. The landlord deposits the check at one of your branches. The account on which the check is drawn (the tenant’s account) has insufficient funds and no overdraft protection. You return the item unpaid.

ACH Payments

GENERAL TERMINOLOGY

ACH Payments –

Transactions in this category are entries, originated or received by your institution, that are processed through an Automated Clearinghouse platform according to NACHA rules and format conventions. For this study, please follow these guidelines:

ACH Entries include...	ACH Entries do not include...
<ul style="list-style-type: none"> ▪ Debits & Credits sent and received ▪ On-Ups entries ▪ Network entries ▪ Returns 	<ul style="list-style-type: none"> ▪ Addenda Records ▪ Zero-dollar items (e.g. NOCs, Prenotes) ▪ Deletes/Reversals

Originating Depository Financial Institution (ODFI) –

The Originating Depository Financial Institution (ODFI) is the financial institution that initiates and warrants electronic payments through the ACH Network (or On-Ups) on behalf of its customers.

Receiving Depository Financial Institution (RDFI) –

The RDFI is the financial institution that provides depository account services to individuals and organizations and accepts and posts electronic entries to those accounts.

Network ACH Entries –

A Network ACH entry is one that is cleared through a network operator, i.e., the Federal Reserve or EPN. This would **not include** ACH entries cleared directly between your institution and another (i.e., Direct Exchange ACH entries). Please consider all Network ACH entries that result in payments from accounts at your institution, including those for which you are both the ODFI and RDFI (i.e., Network On-Ups ACH entries).

Network On-Ups ACH Entries –

A Network On-Ups ACH Entry is one for which you are both the ODFI and RDFI and which is cleared through the Federal Reserve or EPN. Institutions that originate Network On-Ups Entries have found it economical or operationally necessary to clear payments between their own accountholders through the network. The alternative would be to identify these entries, separate them from other Network ACH entries, and process them entirely in-house.

Direct Exchange ACH Entries –

A Direct Exchange ACH entry is one that is exchanged directly between your institution and another. Some institutions call these “Direct Send” entries. Please consider all Direct Exchange ACH entries that result in payments from accounts at your institution.

In-House On-Ups ACH Entries (Cleared within Your Institution and Not through the Fed or EPN) –

An In-House On-Ups ACH entry is one for which you are both the ODFI and the RDFI without the use of a network, such as the Federal Reserve or EPN, for clearing or settlement. On-Ups entries result in the movement of funds from one account to another within your institution.

SURVEY ITEMS

ACH: Network Entries

1) ACH Credits Your Institution Originates Through the Fed or EPN

All Network ACH Credit entries for which you are the ODFI. Include returns. Include Network On-Ups Credit entries for which you are both the ODFI and RDFI. See above for definition of “Network” entry.

Do Not Include:

- ACH entries received from other institutions
- Debit ACH entries originated
- Direct Exchange Entries, such as ACH Credits Your Institution Originates Directly to Another Institution (**3** below)
- In-House On-Ups Entries, such as In-House On-Ups Credits Your Institution Originates (**5** below)
- Addenda records
- Zero-dollar entries

► **Example:** Your corporate customer pays its employees electronically through the ACH. Your institution originates the credit entries on behalf of your customer and sends them through your chosen network operator, i.e., the Fed or EPN.

2) ACH Debits Your Institution Receives Through the Fed or EPN

All Network ACH Debit entries for which you are the RDFI. Include returns. Include Network On-Ups Debit entries for which you are both the ODFI and RDFI. See above for definition of “Network” entry.

Do Not Include:

- ACH entries sent to other institutions
- Credit ACH entries received
- Direct Exchange Entries, such as ACH Debits Your Institution Receives Directly from Another Institution (**4** below)
- In-House On-Ups Entries, such as In-House Debits Your Institutions Originates (**6** below)
- Addenda records
- Zero-dollar entries

► **Example:** Your customer has set up direct debit of his checking account for recurring monthly bill payments. His billers, (e.g., utilities, insurance companies, credit card issuers, etc.) originate debit entries through other financial institutions (i.e., ODFIs) that you receive and post to your customer’s account.

ACH: Direct Exchange Entries

3) ACH Credits Your Institution Originates Directly to Another Institution

All Direct Exchange ACH Credit entries for which you are the ODFI. Include returns. See above for definition of "Direct Exchange" entry.

Do Not Include:

- ACH entries received from other institutions
- Debit ACH entries originated
- Network Entries originated, such as ACH Credits Your Institution Originates Through the Fed or EPN (1 above)
- In-House On-Ups Entries, such as In-House On-Ups Credits Your Institution Originates (5 below)
- Addenda records
- Zero-dollar entries

► **Example:** Your corporate customer pays its employees electronically through the ACH. Your institution originates the credit entries on behalf of your customer. Some of its employees bank at institutions with which you have established direct exchange relationships in order to forego clearing fees from the Fed or EPN. You originate payroll payments via direct exchange to the employees who bank at these institutions.

4) ACH Debits Your Institution Receives Directly from Another Institution

All Direct Exchange ACH debit entries for which you are the RDFI. Include returns. See above for definition of "Direct Exchange" entry.

Do Not Include:

- ACH entries sent to other institutions
- Credit ACH entries received
- Network Entries received, such as ACH Debits Your Institution Receives Through the Fed or EPN (2 above)
- In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 below)
- Addenda records
- Zero-dollar entries

► **Example:** Your customer has set up direct debit of his checking account for recurring monthly bill payments. His billers, (e.g., utilities, insurance companies, credit card issuers, etc.) originate debit entries through other financial institutions (i.e., ODFIs). Some of those institutions have direct exchange relationships with your institution in order to forego clearing fees from the Fed or EPN. You receive debit entries from these institutions and post them to your customer's account.

ACH: In-House On-Ups Entries

5) In-House On-Ups Credits Your Institution Originates

All ACH credit entries not cleared through the Federal Reserve or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include:

- ACH entries sent to or received from other institutions
- In-House On-Ups Debits Your Institution Originates (6 below)
- Addenda records
- Zero-dollar entries
- If possible, offset entries or entries used to post non-ACH payments to your DDA system using the ACH platform

Note: "Your institution" includes all affiliates.

► **Example:** Your corporate customer pays its employees electronically through the ACH using your institution as its ODFI. Some of its employees have deposit accounts at your institution. To credit the accounts of those employees, you originated In-House On-Ups Credit entries and forego clearing fees from the Fed or EPN.

6) In-House On-Ups Debits Your Institution Originates

All ACH debit entries not cleared through the Federal Reserve or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include:

- ACH entries sent to or received from other institutions
- In-House On-Ups Credits Your Institution Originates (5 above)
- Addenda records
- Zero-dollar entries
- If possible, offset entries or entries used to post non-ACH payments to your DDA system using the ACH platform.

Note: "Your institution" includes all affiliates.

- **Example:** Your corporate customer, a cable company, collects monthly payments from its customers by originating ACH debit entries using your institution as its ODFI. Some of those customers also have deposit accounts at your institution. To debit the accounts of those customers, you originate In-House On-Ups Debit entries and forego clearing fees from the Fed or EPN.

ACH: Check Conversion Entries

9) ACH Debit Entries Your Institution Receives Through the Fed or EPN by Selected SEC Codes: ARC, POP, BOC

All Network or ACH Debit entries of type ARC, POP or BOC only for which you are the RDFI. See above for definition of "Network" entries. Include only the follow SEC (Standard Entry Class) codes:

- ARC (Accounts Receivable)
- POP (Point of Purchase)
- BOC (Back Office Conversion)

Do Not Include:

- ACH entries sent to other institutions
- Credit ACH entries received
- Direct Exchange Entries, such as ACH Debits Your Institution Receives Directly from Another Institution (4 above or 10 below)
- In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 above or 11 below)
- Addenda records
- Zero-dollar entries
- Entries coded as any other SEC code besides ARC, POP, or BOC

Note: This is a subset of item 2 above.

10) ACH Debit Entries Your Institution Receives Directly from Another Institution by Selected SEC Codes: ARC, POP, BOC

All Direct Exchange ACH Debit entries of type ARC, POP or BOC only for which you are the RDFI. See above for definition of "Direct Exchange" entries. Include only the follow SEC (Standard Entry Class) codes:

- ARC (Accounts Receivable)
- POP (Point of Purchase)
- BOC (Back Office Conversion)

Do Not Include:

- ACH entries sent to other institutions
- Credit ACH entries received
- Network Entries received, such as ACH Debits Your Institution Receives Through the Fed or EPN (2 above or 9 above)
- In-House On-Ups Entries, such as In-House On-Ups Debits Your Institution Originates (6 above or 11 below)
- Addenda records
- Zero-dollar entries
- Entries coded as any other SEC code besides ARC, POP, or BOC

Note: This is a subset of item 4 above.

11) In-House On-Ups Debits Originated by Selected SEC Codes: ARC, POP, BOC

All In-House ACH Debit entries of type ARC, POP, or BOC only not cleared through the Federal Reserve or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution. Include only the follow SEC (Standard Entry Class) codes:

- ARC (Accounts Receivable)
- POP (Point of Purchase)
- BOC (Back Office Conversion)

Do Not Include:

- ACH entries sent to or received from other institutions
- In-House On-Ups Credits Your Institution Originates (5 above)
- Addenda records
- Zero-dollar entries
- Entries coded as any other SEC code besides ARC, POP, or BOC

Note: This is a subset of item 6 above.

Debit Card Transactions

GENERAL TERMINOLOGY

Debit Card Transactions –

All purchase or bill pay transactions made with a debit card (or ATM card used for POS transactions). These transactions can be authenticated by either a Personal Identification Number (PIN) or by a signature. Funds are debited from a demand deposit account after authorization over a regional or national electronic funds transfer (EFT) network. Transactions may originate either at a physical point of sale (POS), via telephone, via the Internet, etc. For this study, please follow these guidelines:

Debit Card Transactions include...	Debit Card Transactions do <u>not</u> include...
<ul style="list-style-type: none">▪ Transactions made with Visa, MasterCard, Discover or branded cards and cleared over dual-message networks. These are typically called Signature-based or Offline debit card transactions.▪ POS transactions made with debit cards and cleared over a single-message network. These are typically called PIN-based or Online debit card transactions▪ Payroll card transactions by the cardholder	<ul style="list-style-type: none">▪ ATM withdrawals▪ Credit Card transactions▪ Transfers by a corporate customer to fund its employees' payroll card accounts

SURVEY ITEMS

1) Offline (Signature-Based) Debit Card Transactions

All consumer and business debit card transactions on Visa, MasterCard or Discover branded debit cards for which you are the card issuing institution. (Visa, MasterCard, and Discover brands currently include Visa Check, Visa Business check cards, MasterMoney, MasterDebit, MasterCard debit BusinessCard, and Discover Debit.)

Do Not Include: Online (PIN-based) POS Transactions (2 below) or credit card transactions.

► **Example:** Your customer buys groceries with her Visa Check card. When asked, "credit or debit," she selects "credit" and signs a sales receipt to authorize payment from her checking account. The transaction is cleared and settled through Visa.

2) Online (PIN-Based) POS Transactions

All online (PIN-based) point-of-sale (POS) transactions for which you are the card issuing institution. This includes PIN-authenticated transactions made either by PIN-enabled debit cards or by ATM cards used at the point of sale.

Do Not Include: ATM withdrawals, Offline (Signature-Based) Debit Card Transactions (1 above), or credit card transactions.

► **Example:** Your customer buys groceries with his debit card. When asked, “credit or debit,” he selects “debit” and enters his PIN to authorize payment from his checking account. The transaction is cleared and settled through your regional EFT network.

ATM Withdrawals

GENERAL TERMINOLOGY

ATM Withdrawals –

Cash withdrawals made by your customer at your ATM or a foreign ATM. For this study, please follow these guidelines:

ATM Withdrawals include...	ATM Withdrawals do <u>not</u> include...
<ul style="list-style-type: none">▪ All cash withdrawals by your customers	<ul style="list-style-type: none">▪ Cash withdrawals or other transactions by cardholders other than your customers▪ Deposit Transactions▪ Inquiries▪ Funds Transfers▪ Statement Prints▪ Purchases (stamps, tickets, etc.)▪ Any other non-withdrawal transaction

“Foreign” ATM Withdrawals –

Cash withdrawals made by your customer at an ATM operated by another financial institution or ATM operator.

SURVEY ITEMS

1) ATM Withdrawals (Your Customer, Any ATM)

All cash withdrawals made by your customers from any ATM, including those at your ATMs (1a below) or at “foreign” ATMs (1b below).

Do Not Include: Withdrawals by another institution's customers, deposit transactions, or other non-withdrawal transactions (e.g., inquiries, statement print-out, purchases of stamps, tickets, etc.)

► **Example:** Your customer uses her Visa Check card to withdraw cash from an ATM located in a grocery store but owned and operated by your institution. Later that day she makes a second ATM withdrawal from an ATM owned and operated by a bank across town. Both transactions should be counted.

⇒ Total ATM Withdrawals = On-Us Withdrawals (1a) + Your Customer, “Foreign” ATM Withdrawals (1b).

1a) On-Us ATM Withdrawals (Your Customer, Your ATM)

All cash withdrawals made by your customers at your ATMs.

Do Not Include: Withdrawals by cardholders other than your customers, withdrawals by your customers at “foreign” ATMs, or non-withdrawal transactions by your customers.

Note: This is a subset of item 1 above. Please count only withdrawals by your customers at your ATMs.

► **Example:** Your customer uses her Visa Check card to withdraw cash from an ATM located in a grocery store but owned and operated by your institution.

1b) Your Customer, “Foreign” ATM

All cash withdrawals made by your customers at “foreign” ATMs.

Do Not Include: Any transactions at your ATMs, whether by your customer or another cardholder, or any non-withdrawal transactions by your customers.

Note: This is a subset of item 1 above. Please count only withdrawals by your customers at ATMs operated by financial institutions or ATM operators.

► **Example:** Your customer uses her Visa Check card to withdraw cash from an ATM located in a grocery store and owned and operated by another institution.

Appendix B:

Survey Instrument (*Short Form*)

The Federal Reserve Payments Study

SHORT FORM

About the study... The Federal Reserve Payments Study is a **confidential** national survey of financial institutions about payments and withdrawals from transaction accounts (demand deposit and NOW accounts). The “*Short Form*” measures only check and ACH payments drawn on your institution’s accounts during March and April, 2007. Data from your response will contribute to estimates of the national number of payments made by these transaction methods. The Federal Reserve will compare the results of this study to those of similar studies in 2001 and 2004 to document how the U.S. payments system is changing.

Why participate... As a participant you will receive access to confidential online reports that compare your payments volumes to that of the industry and your peers. Because the study is a random sample survey, your response is particularly important as it represents other organizations that were not selected for the study. **If you cannot report** an item, enter “NR.” If you do not have volume of the type being measured, enter “0.” A partial response is preferable to no response at all.

How to respond... You may respond by any of three methods. Please respond by **Friday, August 3.**

Online: Visit www.paymentsstudy.com and use your secure institution ID and password:

Institution ID: *****

Password: *****

Fax: (484) 840-4599

Mail: Use the enclosed postage paid envelope or send your survey to:
Federal Reserve Payments Study c/o ICR; 53 W. Baltimore Pike; Media, PA 19063.

Questions... You are welcome to call us at **(800) 609-5944.**

Check Payments

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 6 of the *Institution Profile* section on page 3. “Your institution” refers to the entire enterprise including all affiliates.

1) “Payor Bank” Checks

(Enter “NR” for any item you cannot report or “0” if you have no volume.)

Include: All checks (and/or “share drafts”) drawn on your institution. These include inclearings and “on-us” deposited checks. Include controlled disbursement checks, if applicable. Include checks you subsequently return unpaid (i.e., outgoing returns).

	March	April
Number of Checks:		

Do Not Include: Checks drawn on other institutions (i.e., transit checks). Be sure to exclude non-check documents, such as deposit slips, G/L tickets, etc., if possible.

2) Returned Checks (“Outgoing”)

Include: All checks drawn on your institution that you return unpaid, whether to another institution (i.e., inclearings returned) or to your customer (i.e., “on-us” deposited checks returned).

	March	April
Number of Checks:		

Do Not Include: Checks drawn on another FI returned to you unpaid.

ACH Entries

Please Do Not Round.

Note: If you have excluded data for any affiliate, please indicate this exclusion in item 6 of the *Institution Profile* section on page 3. **“Your institution” refers to the entire enterprise** including all affiliates.

Network ACH Entries

A Network ACH entry is one that is cleared through a network operator, i.e., the Fed or EPN. This would **not include** ACH entries cleared directly between your institution and another (i.e., Direct Exchange ACH entries). Please consider all Network ACH entries that result in payments from accounts at your institution, including those for which you are both the ODFI and RDFI (i.e., Network On-U ACH entries).

Note: The Originating Depository Financial Institution (ODFI) is the financial institution that initiates and warrants electronic payments through the ACH Network (or On-U)s on behalf of its customers. The RDFI (Receiving Depository Financial Institution) is the financial institution that provides depository account services to individuals and organizations and accepts and posts electronic entries to those accounts.

3) ACH Credits Your Institution Originates Through the Fed or EPN

(Enter **“NR”** for any item you cannot report or **“0”** if you have no volume.)

Include: All Network ACH Credit entries for which you are the ODFI. Include returns. Include Network On-U)s Credit entries for which you are both the ODFI and RDFI. See above for definition of “Network” entry.

Do Not Include: ACH entries received from other institutions; debits originated; Direct Exchange Entries, such as ACH Credits Your Institution Originates Directly to Another Institution; In-House On-U)s Entries (5 below); addenda records; or zero-dollar entries.

	March	April
Number of Entries:		

4) ACH Debits Your Institution Receives Through the Fed or EPN

Include: All Network ACH Debit entries for which you are the RDFI. Include returns. Include Network On-U)s Debit entries for which you are both the ODFI and RDFI. See above for definition of “Network” entry.

Do Not Include: ACH entries sent to other institutions; credits received; Direct Exchange Entries, such as ACH Debits Your Institution Receives Directly from Another Institution; In-House On-U)s Entries (5 below); addenda records; or zero-dollar entries.

	March	April
Number of Entries:		

In-House On-U)s ACH Entries (Cleared within Your Institution and Not through the Fed or EPN)

An In-House On-U)s ACH entry is one for which you are both the ODFI and the RDFI without the use of a network, such as the Fed or EPN, for clearing or settlement. On-U)s entries result in the movement of funds from one account to another within your institution.

5) In-House On-U)s Entries Your Institution Originates

(Enter **“NR”** for any item you cannot report or **“0”** if you have no volume.)

Include: All ACH entries, both debits and credits, not cleared through the Fed or EPN for which you are both the ODFI and RDFI for the purpose of moving funds from one account to another at your institution.

Do Not Include: ACH entries sent to or received from other institutions, addenda records, or zero-dollar entries. If possible, be sure to exclude offset entries or entries used to post non-ACH payments to your DDA system using the ACH platform.

	March	April
Number of Entries:		

Note: “Your institution” includes all affiliates.

Institution Profile

This is an enterprise-wide survey... According to our records, transaction volume data from the following affiliated institutions should be included in your response (unless you indicate their exclusion below).

Throughout this survey instrument, **“your institution” refers to the entire enterprise** including all affiliates.

Please contact us at (800) 609-5944 if you have any questions or concerns about the items on this page.

6) Please indicate if any of these affiliates are excluded from your response.

Name	City	State	Approximate Total Deposit Balances (in millions of dollars)*	Which data are missing?	
				Check	ACH
<Affiliate name>	<City>	<ST>	<Total Deposits (MM)>	<input type="checkbox"/>	<input type="checkbox"/>

* Deposit information is based on 1st Quarter 2007.

7) Please list any affiliates not identified above that are included in your response.

Name	City	State

If you have any **comments** about the data you reported on this “short form” survey, please record them below:

Appendix C:
Registration Form

Respondent Registration Form

The *Federal Reserve Payments Study* is a national survey of depository institutions about payments and withdrawals from transaction accounts. The survey gathers data about check, ACH, and debit card payments as well as ATM withdrawals during March-April, 2007. Your response is strictly confidential.

You may register any time. If we have not heard from you **by February 16th** we will call to make sure the survey has been received. Please indicate a primary contact who will be responsible for coordinating your institution's response. If you are unable to provide a single point of contact, please identify a contact for each section of the survey.

To Register... You may return this registration form in the enclosed envelope or fax it to (484) 840-4599.

...or register securely online: www.paymentsstudy.com. [Institution ID: *****. Password: *****.]

► **Option 1 (Preferred): Your Study Coordinator**

*A single point of contact helps to simplify the survey process and ensures the highest quality response.
PLEASE PRINT (* Required field)*

*First Name: _____

*Last Name: _____

Title: _____

Organization: _____

Street: _____

City, State ZIP: _____

*Phone: (____) _____ - _____ Fax: (____) _____ - _____

*E-mail: _____

Option 2: Multiple Survey Contacts

*Please use this option only if you are unable to identify a single point of contact to coordinate your reply.
PLEASE PRINT (* Required field)*

	CHECK	ACH	DEBIT CARD	ATM
*First Name:	_____	_____	_____	_____
*Last Name:	_____	_____	_____	_____
Title:	_____	_____	_____	_____
Organization:	_____	_____	_____	_____
Street:	_____	_____	_____	_____
City, State ZIP:	_____	_____	_____	_____
*Phone:	_____	_____	_____	_____
Fax:	_____	_____	_____	_____
*E-mail:	_____	_____	_____	_____