

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Date: October 28, 2002
To: Board of Governors
From: Roger W. Ferguson, Jr. *RWF, Jr.*
Subject: Proposed 2003 Fee Schedules for Priced Services

The Committee on Federal Reserve Bank Affairs has reviewed staff's recommendation that the Board adopt the proposed 2003 fee schedules for priced services and electronic connections. The Reserve Banks project a recovery rate of 94.4 percent of total costs in 2003, including imputed expenses and targeted return on equity. Except for check and special cash services, each of the priced services will fully recover all costs. Check services are projected to recover 93 percent and special cash services (less than one tenth of 1 percent of overall priced services) to recover 77.5 percent. The proposed 2003 fee schedules would become effective in January 2003.

The Committee is forwarding the attached staff memorandum to you for your consideration.

Attachment

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DIVISION OF RESERVE BANK OPERATIONS AND PAYMENT SYSTEMS

Date: October 28, 2002
To: Board of Governors
From: Staff¹
Subject: Proposed 2003 Fee Schedules for Priced Services

ACTION REQUESTED

Staff requests that the Board approve the proposed 2003 fees for priced services and electronic connections shown in attachments I through VII.²

DISCUSSION

Over the period 1992 through 2001, the Reserve Banks recovered 99.8 percent of their total costs for providing priced services, including special project costs, imputed expenses, and targeted after-tax profits or return on equity (ROE).³

Table 1 summarizes the priced services' actual, estimated, and budgeted cost recovery rates for 2001, 2002, and 2003 respectively. Cost recovery is estimated to be 92.2 percent in 2002 and budgeted to be 94.4 percent in 2003. The aggregate cost-recovery rates are heavily influenced by the performance of the check service, which accounts for approximately 85 percent of the total cost of priced services. The electronic services (FedACH, Fedwire funds transfer, Fedwire securities, and national settlement) account for

¹ Jack Walton, Michele Braun, Joseph Baressi, William Driscoll, Gregory Cannella, Edwin Lucio, and Marybeth Butkus.

² Staff separately forwarded to the Board its recommendation for the 2003 private-sector adjustment factor.

³ Imputed costs, such as taxes that would have been paid and return on equity that would have been provided had the services been furnished by a private business firm, are referred to as the private-sector adjustment factor (PSAF). The ten-year recovery rate is based upon the pro forma income statements for Federal Reserve priced services published in the Board's *Annual Report*. Beginning in 2000, the PSAF included additional financing costs associated with pension assets attributable to priced services. This ten-year cost recovery rate has been computed as if these costs were not included in the PSAF calculations prior to 2000. If these costs were included in the calculations, and assuming that the Reserve Banks would not have made any contemporaneous cost or revenue adjustments, the 10-year recovery rate would be 98.7 percent.

approximately 15 percent of costs, while noncash and special cash services represent a de minimis amount.

Table 1

Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 ^a REVENUE	2 ^b TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 ^c TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	960.4	901.9	58.5	109.2	95.0%
2002 (Estimate)	912.9	898.0	14.8	92.5	92.2%
2003 (Budget)	933.7	883.9	49.8	104.7	94.4%

^a Includes net income on clearing balances (NICB). Clearing balances, net of imputed reserve requirements and balances used to finance priced-services assets, are assumed to be invested in three-month Treasury bills. NICB equals the income from this imputed investment less earnings credits granted to clearing balance holders at the federal funds rate.

^b The calculation of total expense includes operating expenses and imputed expenses. Imputed expenses include taxes, FDIC insurance, Board of Governors priced services expenses, the cost of float, and interest on imputed debt, if any. Credits related to the accounting for pensions under FAS 87 are also included.

^c Target ROE is the ROE included in the PSAF.

Table 2 presents an overview of the 2001 actual, budgeted 2002, estimated 2002, and projected 2003 cost recovery performance by category of priced service.

Table 2

Priced Services Cost Recovery				
(percent)				
PRICED SERVICE	2001 ACTUAL	2002 BUDGET	2002 ESTIMATE	2003 BUDGET
All services	95.0	96.4	92.2	94.4
Check	93.9	95.5	90.9	93.0
ACH	103.7	101.4	102.5	101.6
Fedwire funds transfer	99.5	101.1	95.9	104.1
Fedwire securities	90.2	100.4	98.7	104.9
Noncash collection	111.9	94.3	93.1	110.3
Special cash	103.3	103.4	91.1	77.5

2002 Estimated Performance

In 2002, the Reserve Banks estimate that they will recover 92.2 percent of the costs of providing priced services, compared with the budgeted recovery rate of 96.4 percent. The Reserve Banks expect to recover fully actual and imputed expenses, earning net income of \$14.8 million, which is \$77.7 million less than the budgeted net income, or ROE, of \$92.5 million. The shortfall from the 2002 budget is largely driven by declining check volume.

The Reserve Banks estimate that check revenue in 2002 will be \$45.3 million below budget. Though the Reserve Banks have taken steps to reduce check operating costs, these reductions are largely offset by increases in non-operating factors.

Forward-processed check volume in 2002 was budgeted to be 2.9 percent higher than in 2001. The Reserve Banks now estimate, however, that 2002 volume will be 1.8 percent lower than in 2001. Even this estimate may be optimistic, as processed check volume through August 2002 is 3.4 percent below 2001 volume for the same period. The deterioration in the Reserve Banks' check volume appears to be consistent with nationwide trends away from check use and toward greater use of electronic payment methods. The Federal Reserve System's recent retail payments research shows that the number of checks written in the United States appears to have been declining since the mid-1990s.⁴ Lower volumes in 2002 may also have been influenced by slower growth in the overall economy.

2003 Projected Performance

For 2003, the Reserve Banks project a priced services cost recovery rate of 94.4 percent, with net income of \$49.8 million, as compared to target net income, or ROE, of \$104.7 million. The primary factor affecting 2003 cost recovery is the continued check volume decline.

The primary risks to the Reserve Banks' ability to achieve their budget targets are (1) cost overruns in the check modernization projects, (2) significantly lower-than-projected returns on pension assets, and (3) a steeper decline in the Reserve Banks' check volume than the projected 2.8 percent annual decline.⁵ To address the apparent continuing decline in check volumes, the Reserve Banks are developing a business and operational

⁴ Gerdes, Geoffrey R. and Jack K. Walton II, "The Use of Checks and Other Noncash Payment Instruments in the United States," Federal Reserve Bulletin, August 2002, pp. 360-374. (This article is available on line at www.federalreserve.gov/pubs/bulletin/default.htm.) During the late 1990s, the volume of checks processed by the Reserve Banks rose, albeit slowly, which implies that the proportion of interbank checks cleared through the Reserve Banks increased.

⁵ Check modernization is a multiyear initiative to standardize the processing of checks at all Reserve Banks, adopt a common platform for processing and researching check-adjustment cases, create a national system for archiving and retrieving check images, and deliver check services to depository institutions using web technology. Check modernization should improve the operational efficiency and cost-effectiveness of the Reserve Banks' check services once fully implemented. It will also improve the consistency, quality, and uniformity of the check services that Reserve Banks deliver to their customers and allow new services to be developed and deployed more quickly.

strategy that will position the service to achieve its financial and payment system objectives over the long term.

2003 Pricing

The following summarizes the Reserve Banks' proposed changes in fee structures and levels for priced services:

Check

- The Reserve Banks propose to raise fees for forward-collection check products 2.5 percent, return check products 4.0 percent, and payor-bank check products 4.8 percent compared with January 2002 fees.
- Since 1996, the price index for check services has increased 31 percent.⁶

FedACH

- The Reserve Banks propose to (1) retain current per-item origination fees for items in large files, (2) reduce per-item origination fees for items in small files from \$0.004 to \$0.003, and (3) reduce per-item receipt fees (for all items) from \$0.0035 to \$0.0025.⁷
- The ACH price index has decreased 61 percent since 1996.

Fedwire funds transfer and national settlement services⁸

- The Reserve Banks propose fee reductions in all volume tiers: from \$0.31 to \$0.30 per transfer if less than 2,501 transfers per month, from \$0.22 to \$0.20 per transfer if between 2,501 and 80,000 transfers per month, and from \$0.15 to \$0.10 per transfer if more than 80,000 transfers per month.
- The price index for Fedwire funds transfer and national settlement services has decreased 60 percent since 1996.

Fedwire securities service

- The Reserve Banks propose reducing the on-line transfer origination and receipt fees from \$0.66 to \$0.40.

⁶ The price index estimates are based on a chained Fisher ideal price index. This index is not adjusted for quality changes in Federal Reserve priced services. Data elements used in calculating the index include explicit fee revenue from priced services and volumes associated with those services. For 2003, the year-over-year percentage change in the index is based on a comparison of the 2003 projections with the 2002 estimates for priced services revenues and volumes. The price index is calculated based on 1994-2001 actual, 2002 estimated, and 2003 projected revenues and volumes.

⁷ Files containing fewer than 2,500 items are small; files with 2,500 or more items are large.

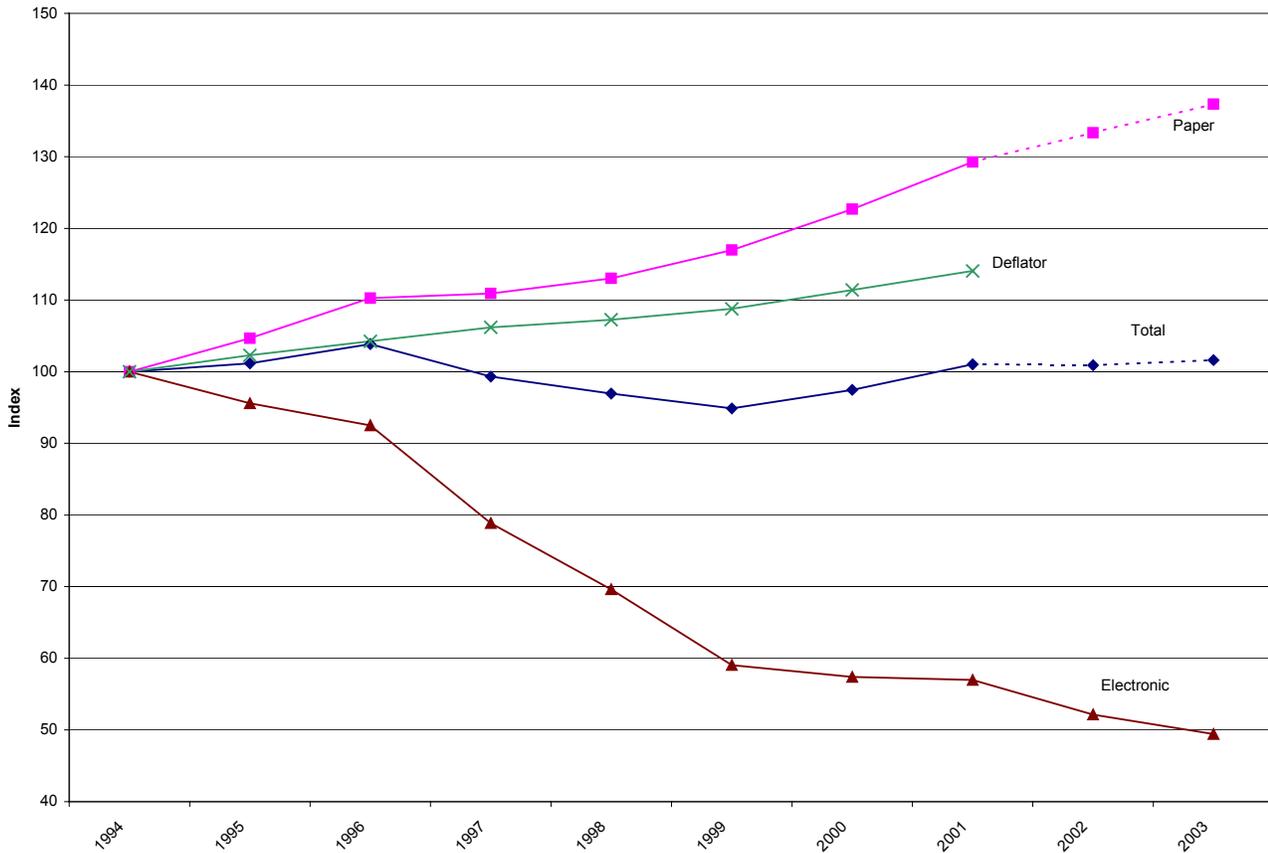
⁸ The name of the net settlement service was changed to national settlement service effective August 2002.

- The price index for the Fedwire securities service has decreased 34 percent since 1996.

2003 Price Index

The price index for electronic payment services (ACH, Fedwire funds transfer and national settlement, Fedwire securities, and electronic check) and electronic connections is projected to decline 5 percent in 2003. By contrast, the index for paper-based payment services (check, special cash, and noncash collection) is expected to increase about 3 percent in 2003. The overall 2003 price index for all Federal Reserve priced services is projected to increase less than 1 percent. Since 1996, the overall price index has declined by about 2 percent. Figure 1 compares the Federal Reserve's price index for priced services with the GDP price deflator.

Figure 1
Federal Reserve Price Index
Chained Fisher ideal index compared with GDP price deflator



ANALYSIS OF COMPETITIVE EFFECT

All operational and legal changes considered by the Board that have a substantial effect on payments system participants are subject to the competitive impact analysis described in the March 1990 policy statement “The Federal Reserve in the Payments System.”⁹ Under this policy, staff assesses whether the proposed change would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services because of differing legal powers or constraints or because of a dominant market position of the Federal Reserve deriving from such legal differences. If the fees or fee structures create such an effect, staff must further evaluate the changes to assess whether their benefits — such as contributions to payment system efficiency, payment system integrity, or other Board objectives — can be retained while reducing the hindrances to competition.

The 2003 fees proposed by the Reserve Banks result in a projected ROE below the target established using a model that is based, in part, on the consolidated results over time of the largest fifty bank holding companies. To the extent that these bank holding companies expect a mature, declining business, such as check processing, to have the same return on equity as the organization as a whole, the Reserve Banks’ underrecovery could have an adverse competitive effect. Given the current market environment, however, greater fee increases are not likely to materially improve the Reserve Banks’ cost recovery and might even reduce the revenue that the Reserve Banks receive as depository institutions seek lower-cost alternatives. Overall, staff believes that the proposed fees are reasonable.

RECOMMENDATION

The Reserve Banks are taking steps to reduce costs and return to full cost recovery, but these steps take time to implement, particularly while ensuring that appropriate levels of service are provided to depository institutions. Experience following the initial implementation of Regulation CC in 1988 and following the implementation of Regulation CC’s same-day settlement rule in 1994 shows that the Reserve Banks have been able to adjust to environmental changes and fully recover total expenses and ROE over the long run.

Therefore, staff recommends that the Board approve the 2003 fee schedules for priced services and electronic connections, which are included in attachments I to VII,

⁹ Federal Reserve Regulatory Service 7-145.2.

and the check service fee supplement (which is available upon request). The 2003 fee changes are reflected in boldface type on the fee schedules in attachments I to VII.

Attachments

Attachments
Table of Contents

	Page
Attachment I	
Check service	10
Attachment II	
ACH service	17
ACH 2003 fee schedule	19
Attachment III	
Funds transfer and national settlement service	21
Funds transfer and national settlement 2003 fee schedule	23
Attachment IV	
Fedwire securities service	24
Fedwire securities 2003 fee schedule	27
Attachment V	
Noncash collection service	28
Noncash collection 2003 fee schedule	30
Attachment VI	
Special cash service	31
Special cash 2003 fee schedule	33
Attachment VII	
Electronic connections 2003 fee schedule	34

Attachment I

Check

The table below shows the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for the check service.

Check Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	793.2	754.4	38.9	90.2	93.9%
2002 (Estimate)	760.0	758.3	1.7	78.2	90.9%
2003 (Budget)	789.0	758.7	30.3	89.4	93.0%

2001 Performance — The check service recovered 93.9 percent of total costs in 2001, including imputed expenses and targeted ROE, which was below the targeted recovery rate of 97.6 percent. The volume of checks collected decreased 0.5 percent from 2000 levels, partly because of a decline in fine-sort volumes as banks presented more checks directly. Revenue grew from 2000 levels primarily because of price increases, but revenue was \$22 million below the budgeted amount. Costs exceeded the budgeted amount by \$18.5 million because of lower-than-budgeted pension credits, somewhat offset by lower-than-budgeted check modernization costs.

2002 Performance — Through August 2002, the check service has recovered 93.0 percent of total costs, including imputed expenses and targeted ROE. For the full year, the Reserve Banks expect to recover all direct and indirect costs of providing check services and a modest portion of the targeted return on equity. Specifically, the Reserve Banks estimate that the check service will recover 90.9 percent of its total costs for the full year compared with the budgeted 2002 recovery rate of 95.5 percent, amounting to a \$39 million shortfall.¹⁰ The lower-than-budgeted recovery rate is primarily due to lower-than-budgeted revenues. Service revenue is estimated to be \$57 million below budget, due to lower-than-expected volume in forward-collection, return-collection, and electronic check products.

¹⁰ The cost-recovery estimate does not reflect reduced depreciation expense for some check-sorting equipment of approximately \$1 million, resulting from a recent System re-evaluation of the useful life of such equipment.

Additionally, in the current low-interest-rate environment, depository institutions select lower-priced, later-availability check products. Major factors are summarized in Table 2.

Table 2

Check 2002 Budget vs. 2002 Estimate (millions of dollars)			
	BUDGET	ESTIMATE	VARIANCE
Operating revenue	820.0	763.3	-56.7
NICB	-14.7	-3.3	11.4
Total revenue	805.3	760.0	-45.3
Operating costs	692.2	681.0	11.3
Check modernization	106.2	101.4	4.8
Pension credits	-66.6	-41.0	-25.7
PSAF	111.2	95.1	16.1
Total cost	843.0	836.4	6.5
Net revenue	-37.7	-76.5	-38.8
Recovery rate	95.5%	90.9%	

Reserve Banks expect lower-than-budgeted pension credits to offset estimated local cost reductions of \$27 million. The estimated full-year recovery rate is lower than the rate through August as severance expenses are recognized and data processing and data communications charges increase during the fourth quarter.

The volume of checks handled by the Reserve Banks has declined (as shown in table 3) reflecting a broader market trend in which the number of checks written each year appears to be declining, as discussed in a recent Federal Reserve check study.¹¹ Year-to-date forward-collection check product volume through August, excluding electronic fine sort volume, declined 3.6 percent, compared with the 0.6 percent increase for the similar period last year.¹² For the full year 2002, the Reserve Banks estimate that forward-processed volume will decline 1.8 percent, compared with a budgeted 2.9 percent growth rate. (The decline is due to lower local volumes, partly offset by higher nonlocal volumes, from both

¹¹ Gerdes, Geoffrey R. and Jack K. Walton II, "The Use of Checks and Other Noncash Payment Instruments in the United States," Federal Reserve Bulletin, August 2002, pp. 360-374.

¹² Electronic fine-sort is a service offered by two Reserve Banks that allows depository institutions to exchange fine-sort information electronically with paper checks to follow. Presentment occurs when the paper checks are delivered.

large and small banks.) The full-year rate of decline is less than the decline to date because of recent volume growth in several Districts. There is some risk, however, that the full-year rate of decline may exceed the estimate. Return-check volume has declined 3.8 percent through August 2002, and full-year volume is expected to decline 4.7 percent, as depository institutions seek alternative ways to return checks at lower cost because of the Reserve Banks' continuing price increases for return products.

Table 3

Paper Check Product Volume Changes			
(percent)			
	BUDGETED	YEAR-TO-DATE CHANGE	ESTIMATED 2002
	2002 CHANGE	THROUGH AUGUST 2002	CHANGE
Total forward-collection ^a	3.6	-3.6	-1.7
Forward-processed	2.9	-3.4	-1.8
Fine-sort ^a	13.1	-6.5	0.0
Returns	-2.3	-3.8	-4.7

^a These rates exclude electronic fine-sort volume. Including the electronic fine-sort product, fine-sort volume growth was budgeted to increase 8.7 percent in 2002 and is now estimated to increase 9.0 percent.

Reversing a trend over the past few years, electronic check volumes have declined. Recent data are summarized in table 4. Reserve Banks provide payor banks with electronic check data or images for about 38 percent of the checks they collect. Year-to-date 2002 image volumes have declined about 5 percent, to approximately 884 million check images, which represents about 8.4 percent of all checks collected by the Reserve Banks. The decline in image volume, compared with the target growth of 25.6 percent, is likely due to delays in implementing FedImage services.¹³ Staff believes that Reserve Banks' estimates for electronic check service volume for the full year, which reflect a higher rate of growth than experienced through August, may be somewhat optimistic.

¹³ The rollout of Reserve Bank FedImage services has taken longer than expected due to complexities associated with developing the application.

Table 4

Electronic Check Product Share and Volume Changes			
	VOLUME CHANGE	ESTIMATED	SHARE OF CHECKS
	THROUGH	2002	COLLECTED
	AUGUST 2002	CHANGE	THROUGH AUGUST 2002
	(PERCENT)	(PERCENT)	(PERCENT)
Electronic check presentment	-2.4	-0.2	23.0
Truncation	-6.1	-5.6	5.3
Non-truncation	-0.2	1.5	17.6
Electronic check information	-10.4	-8.8	6.7
Images	-4.8	1.9	8.4

2003 Pricing — For the coming year, the Reserve Banks will continue to focus on check modernization initiatives to standardize check processing across all Reserve Bank offices. The Reserve Banks will incur significant transition costs associated with these initiatives, at least through 2003 (costs in 2003 are discussed below). These initiatives, however, are expected to reduce steady-state production costs and improve service over the long term.

In 2003, fees for all check products are increasing 2.8 percent on a volume-weighted basis compared with current fees, as shown in table 5.¹⁴ Forward-collection fee increases of 2.5 percent are composed of an increase in forward-processing cash letter fees of 10 percent and per-item fee increases of 1.5 percent. The average volume-weighted fees for payor bank services will increase 4.8 percent compared with current fees. Fees for electronic check products are increasing faster than fees for paper check products because the Reserve Banks are instituting more consistent fees for these products that better reflect the value they provide to depository institution customers.

¹⁴ This discussion evaluates volume-weighted changes in the direct fees for check products. The price index, discussed earlier, evaluates the average change in costs that would be incurred by a customer purchasing an average market basket of Federal Reserve check products.

Table 5

2003 Fee Changes (percent)	
PRODUCT	FEE CHANGE
Total check service	2.8
Forward-collection	2.5
Returns	4.0
Payor bank services	4.8
Electronic check presentment	7.1
Electronic check information	7.3
Image services	4.0

Table 6 summarizes ranges of selected check fees for 2002 and 2003, and shows 2003 price changes in bold type.

Table 6

Selected Check Fees				
Items:	CURRENT FEE RANGES (PER ITEM)		2003 FEE RANGES (PER ITEM)	
	Forward-processed			
City	\$0.005 to 0.079		\$0.005 to 0.080	
RCPC	\$0.003 to 0.350		\$0.003 to 0.340	
Forward fine-sort				
City	\$0.005 to 0.021		\$0.005 to 0.021	
RCPC	\$0.005 to 0.036		\$0.005 to 0.036	
Qualified returned checks				
City	\$0.08 to 0.80		\$0.08 to 0.80	
RCPC	\$0.10 to 1.10		\$0.10 to 1.10	
Raw returned checks				
City	\$1.50 to 5.00		\$1.50 to 5.00	
RCPC	\$1.30 to 5.00		\$1.30 to 5.00	
Consolidated shipment ^a	\$0.004 to \$0.036		\$0.004 to \$0.036	
Cash letters:	(PER CASH LETTER)		(PER CASH LETTER)	
Forward-processed ^b	\$2.00 to 36.00		\$2.00 to 37.00	
Forward fine-sort	\$4.00 to 14.00		\$6.00 to 14.00	
Returned checks: raw/qualified	\$2.25 to 14.00		\$2.00 to 16.00	
Payor bank services:	(FIXED)	(PER ITEM)	(FIXED)	(PER ITEM)
MICR information	\$2-15	\$0.0030-0.0170	\$5-15	\$0.0030- 0.0150
Electronic presentment	\$1-12	\$0.0005-0.0130	\$2-15	\$0.0005- 0.0110
Truncation	\$2-7	\$0.0020-0.0180	\$2-7	\$0.0020-0.0180
Image capture	\$2-15	\$0.0020-0.0170	\$2-15	\$0.0020- 0.0150
Image delivery	Varies ^c	\$0.0020-0.0080	Varies ^c	\$0.0020-0.0080
Image archive	N/A	\$0.0010-0.0060	N/A	\$0.0007-0.0060
Image retrieval	N/A	\$0.25-5.00	N/A	\$0.30-5.00

^a Per-item fees for consolidated shipments include a half mill surcharge due to higher fuel costs.

^b Cash letter fees for forward-processed items transported by the Reserve Banks include a fifty-cent surcharge due to higher fuel costs.

^c Fixed fee varies by media type.

2003 Projected Cost Recovery — For 2003, the Reserve Banks project that the check service will recover 93.0 percent of total costs, including imputed expenses, costs associated with the check modernization project, and targeted ROE. In total, the Reserve Banks expect to recover all direct and indirect costs of providing check services, but only a portion of targeted return on equity.

Total adjusted costs before taxes are projected to increase approximately \$6.8 million, or 0.8 percent, from estimated 2002 expenses.¹⁵ These costs for 2003 include \$102.8 million in costs for the four check modernization projects, representing an increase of \$1.5 million over the 2002 estimate. Budgeted 2003 local costs, aside from local check modernization costs and offsets, are \$18.2 million lower than 2002 estimated costs, a 3.1 percent reduction, which slightly exceeds the projected percentage decline in forward-processed volume.

Total check revenue is projected to increase \$29 million, or 3.8 percent, from the 2002 estimate due to increased fees for payor-bank products and return-check products. (Increases in fees for forward-collection products are projected to be more than offset by lower volumes and shifts to lower-priced products due to low interest rates.) In 2003, revenues from paper-based services, electronic services, and other operating and imputed revenues are expected to represent about 83 percent, 12 percent, and 5 percent, respectively, of the check service's budgeted \$789.0 million in revenue.

In 2003, forward-processed check volume is projected to be 14.4 billion, a decrease of 2.7 percent compared with the 2002 estimate, with the decline coming mostly from large banks, perhaps partly due to their customers' shift to electronic payment instruments. Fine-sort check volume is expected to continue to decline by 41 million checks, or 3.7 percent, from the 2002 estimate. Total returns are projected to be 166 million, a decrease of 2.3 percent compared with the 2002 estimate.

The Reserve Banks expect an increase in payor-bank service volumes. The Reserve Banks project electronic presentment volume to increase 5.5 percent in 2003 and truncation volume to increase 0.9 percent. Image services volume is projected to grow 8.4 percent in 2003, compared with an estimated 2002 increase of 1.9 percent. Image volume growth is expected to be driven by the increased functionality of FedImage services (for

¹⁵ This estimate does not reflect reduced depreciation expense for check sorting equipment of approximately \$3.5 million, resulting from a recent System re-evaluation of the useful life of such equipment.

example, electronic access to archived check images using web technology). MICR information volume is projected to increase 0.2 percent in 2003, compared with a 9 percent decline estimated for 2002.

Staff believes that the greatest risks to achieving the projected cost-recovery rate for the check service of 93.0 percent are (1) challenges in meeting System volume projections and related revenue projections, (2) challenges in reducing local costs as budgeted, (3) potential downward revisions to priced pension credits, and (4) potential check modernization cost overruns.

Attachment II

Automated Clearinghouse (ACH)

The table below presents the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for the commercial ACH service.

ACH Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	79.4	67.7	11.8	8.9	103.7%
2002 (Estimate)	70.8	62.6	8.2	6.5	102.5%
2003 (Budget)	69.9	61.2	8.7	7.5	101.6%

2001 Performance — In 2001, the ACH service recovered 103.7 percent of total expenses, including imputed costs and targeted ROE, compared with a targeted recovery rate of 101.3 percent. Commercial ACH volume was 16.2 percent higher than 2000 volume, compared with the 11.1 percent increase originally projected for 2001. The Reserve Banks changed their prices on October 1, 2001, to reflect better the cost structure of the ACH service, which is characterized by high fixed and low variable costs. The Reserve Banks decreased per-item fees for large-volume files and increased monthly fixed fees, thereby lowering overall fees to large and medium-sized customers. Also on October 1, the Reserve Banks implemented pricing agreements with other ACH operators for interoperator ACH transactions. Under the new interoperator agreements, the Reserve Banks stopped charging per-item fees to depository institutions that are customers of other ACH operators. Instead, the Reserve Banks and the other ACH operators began to charge each other fees for interoperator transactions. Thus, for ACH items originated by a Reserve Bank customer but sent to a customer of another ACH operator, the Reserve Banks now pay a fee to the other operator and no longer assess per-item fees to that ACH operator’s customer.

2002 Estimate —The Reserve Banks estimate that the ACH service will recover 102.5 percent of total expenses in 2002, compared with the budgeted recovery rate of 101.3 percent. The difference from targeted recovery rate is mainly due to higher-than-projected volume. The \$5.1 million year-over-year expense decrease results primarily from

consolidating the twelve Districts' ACH customer support operations into two offices. On February 1, 2002, the Reserve Banks reduced fees to reflect lower operating costs following the consolidation. Despite this price reduction, total revenue is projected to be \$4.3 million or 6.5 percent above the 2002 budget figure.

The Reserve Banks estimate that their 2002 commercial ACH volume will be 9.1 percent higher than experienced in 2001, which is 20.3 percent higher than budgeted. Year-to-date through August 2002, the Reserve Banks' ACH volume increased 10.8 percent from the same period in 2001. The full-year projection reflects the Reserve Banks' expectation that some large depositors will continue to shift some volume to another ACH operator, or at least split their transactions between the Federal Reserve and another operator.

2003 Pricing — The Reserve Banks project that the ACH service will recover 101.6 percent of its costs in 2003 including imputed expenses and targeted ROE. For the third time since January 2001, the Reserve Banks propose to reduce fees, which would decrease revenue by 1.3 percent from the 2002 estimate. The fee to originate items in files with fewer than 2,500 transactions would be reduced from \$0.004 to \$0.003, and the receipt fee for all items would be reduced from \$0.0035 to \$0.0025. These changes should reduce costs for low-to medium-volume customers. Assuming constant volume, the lower fees would reduce revenue by \$5.4 million. The Reserve Banks expect a 3.7 percent increase in transaction volume, reflecting growth of at least that amount in nationwide use of ACH transactions, however, which would offset somewhat the revenue effect from the lower fees. Staff believes that the Reserve Banks' volume and revenue projections are reasonable.

**FEDERAL RESERVE
AUTOMATED CLEARING HOUSE FEE SCHEDULE**

EFFECTIVE JANUARY 2, 2003

	Fee
Origination (per item or record): ¹⁶	
Items in small files	\$0.0030
Items in large files	\$0.0025
Addenda record	\$0.0010
Input file-processing fee (per file):	\$5.00
Receipt (per item or record): ¹⁷	
Item	\$0.0025
Addenda record	\$0.0010
Monthly fee (per routing number):	
Account servicing fee ¹⁸	\$25.00
FedACH settlement ¹⁹	\$20.00
Information extract file	\$10.00
Voice response return item/notification of change (NOC) fee: ²⁰	\$2.00
Nonelectronic input/output fee: ²¹	
Tape input/output	\$25.00
Paper output	\$15.00
Facsimile return/NOC ²²	\$15.00

Note: Bold indicates change from 2002 prices.

¹⁶ Small files contain fewer than 2,500 items and large files contain 2,500 or more items. These origination fees do not apply to items that the Reserve Banks receive from other operators.

¹⁷ These receipt fees do not apply to items that the Reserve Banks send to other operators.

¹⁸ The account-servicing fee applies only to routing numbers that have received or originated transactions that are processed by the Reserve Banks. Institutions that receive only U.S. government transactions or that elect to use another operator exclusively are not assessed the account-servicing fee.

¹⁹ The fee for FedACH settlement is applied to any routing number with activity during a month. This fee does not apply to routing numbers that use the Reserve Banks for government transactions only.

²⁰ The fee includes the transaction fee in addition to the voice-response fee. The Reserve Banks also assess a \$15 fee for every government paper return/NOC they process. This service is not considered a priced service. The fee includes the transaction fee in addition to the conversion fee.

²¹ These services are offered in contingency situations only.

²² The fee includes the transaction fee in addition to the conversion fee.

Cross-border fee:	
Cross-border item surcharge ²³	\$0.039
Same-day recall of item at receiving gateway operator	\$3.50
Same-day recall of item not at receiving gateway operator	\$5.00
Item trace	\$5.00
Microfiche	\$3.00

²³ The cross-border item surcharge is assessed in addition to the standard item, addenda, and file-processing fees.

Attachment III

Fedwire Funds and National Settlement Service

The table below presents the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for the funds transfer and national settlement services.

Fedwire Funds and National Settlement Service Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	63.8	56.7	7.1	7.4	99.5%
2002 (Estimate)	56.0	53.0	3.0	5.5	95.9%
2003 (Budget)	51.9	44.5	7.4	5.4	104.1%

2001 Performance — The funds transfer and national settlement service recovered 99.5 percent of total costs in 2001, including imputed expenses and targeted ROE, below the targeted recovery rate of 101.2 percent. Expenses for 2001 were \$1.6 million (2.5 percent) more than original budget projections, primarily because of higher-than-anticipated Federal Reserve Information Technology costs, while service revenue was only \$0.6 million (1.0 percent) more than original budget projections.

2002 Performance — Through August 2002, the funds transfer and national settlement services recovered 100.0 percent of total costs, including imputed expenses and targeted ROE. For full-year 2002, the Reserve Banks estimate that the funds transfer and national settlement services will recover 95.9 percent of total expenses, compared with a targeted recovery rate of 101.1 percent. The underrecovery is attributed to several factors, including lower pension credits, an unbudgeted FedLine for Web project, and a FedLine for Windows write-off. Funds transfer volume through August has decreased 0.5 percent relative to the same period in 2001. For the full year, the Reserve Banks estimate a 0.5 percent volume decrease, compared with a budgeted decline of 1.1 percent.

2003 Fedwire Funds Transfer Pricing — The Reserve Banks propose maintaining the current thresholds for volume-based discounts but reducing the per-transfer fees for each threshold. Specifically, the Reserve Banks propose lowering the transfer fee for the first volume tier ($\leq 2,500$ transfers per month) \$0.01 from \$0.31 to \$0.30 (3.0 percent), lowering the transfer fee for the second volume tier (2,501 – 80,000 transfers per month) \$0.02 from \$0.22 to

\$0.20 (9.1 percent), and lowering the transfer fee for the third volume tier (> 80,000 transfers per month) \$0.05 from \$0.15 to \$0.10 (33.3 percent). The average (volume-weighted) per-transfer price would decline from its current level of \$0.2009 to \$0.1679 (16.4 percent). In addition, the Reserve Banks propose retaining the off-line surcharge at its current level.

Reserve Banks project that the Fedwire funds transfer service will recover 104.1 percent of total costs in 2003, including imputed expenses and targeted ROE. Total costs are expected to decline \$8.6 million (14.7 percent) from the 2002 estimate because of lower data communications charges and the full-year effect of savings from the consolidation of local on-line operations support.²⁴ Volume for 2003 is expected to remain flat compared with the 2002 estimate. The Reserve Banks project total funds transfer revenue to decline by \$4.1 million (7.4 percent) in 2003 from the 2002 estimate primarily because of the effect of the proposed 2003 price reductions, which is partially offset by increases in electronic connection revenue and NICB. Staff believes that the Reserve Banks' projections for 2003 funds transfer volume and revenue are reasonable.

2003 National Settlement Service Pricing — Continued consolidations among check clearinghouses in 2003 that use the national settlement service are expected to decrease transaction volume. The Reserve Banks expect this decrease to be offset by volume from new customers such as securities exchanges and card networks. On balance, the Reserve Banks propose retaining the current national settlement service fees for 2003. In addition, the Reserve Banks will retain the monthly \$60 minimum account maintenance fee per arrangement. The Reserve Banks expect settlement entry and file volumes to remain stable in 2003 compared with the 2002 estimate.

²⁴ Specifically, the Reserve Banks consolidated on-line funds transfer operations to two sites and consolidated computer interface testing. The consolidation began in September 2001 and was completed in May 2002.

**FEDERAL RESERVE
FEDWIRE FUNDS TRANSFER AND NATIONAL SETTLEMENT SERVICE FEE SCHEDULE**

EFFECTIVE JANUARY 2, 2003

Fedwire funds transfer service

	Fee
Basic volume-based transfer fee (originations and receipts)	
Per transfer for the first 2,500 transfers per month	\$0.30
Per transfer for additional transfers up to 80,000 per month	\$0.20
Per transfer for every transfer over 80,000 per month	\$0.10
Surcharge	
Off-line transfer originated	\$15.00

National Settlement Service

Basic	
Settlement entry fee	\$0.80
Settlement file fee	\$14.00
Surcharge	
Off-line surcharge	\$25.00
Minimum monthly charge (account maintenance) ²⁵	\$60.00
Special settlement arrangements ²⁶	
Fee per day	\$100.00

Note: Bold indicates change from 2002 prices.

²⁵ This minimum monthly charge will only be assessed if total settlement charges during a calendar month are less than \$60. The fee will be reduced by the total amount of any per entry and per settlement charges incurred during the month.

²⁶ Special settlement arrangements use Fedwire funds transfers to effect settlement. Participants in arrangements and settlement agents are also charged the applicable Fedwire funds transfer fee for each transfer into and out of the settlement account.

Attachment IV

Fedwire Securities Service²⁷

The table below presents the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for the Fedwire securities service.²⁸

Fedwire Securities Service Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	19.7	19.5	0.2	2.3	90.2%
2002 (Estimate)	23.2	21.3	1.9	2.2	98.7%
2003 (Budget)	20.6	17.4	3.2	2.2	104.9%

2001 Performance — The Fedwire securities service recovered 90.2 percent of total costs in 2001, including imputed expenses and targeted ROE, below the target recovery rate of 95.6 percent. Total costs for 2001 were \$0.9 million (4.4 percent) more than budgeted, and service revenue was approximately \$0.3 million (1.4 percent) less than budgeted. The lower revenue was due to the delay in the scheduled addition of Ginnie Mae securities to the service caused by the events of September 11. Total securities transfer volume increased 18.8 percent from the 2000 level.

2002 Performance — Through August 2002, the Fedwire securities service recovered 98.7 percent of total costs, including imputed expenses and targeted ROE. For full-year 2002, the Reserve Banks estimate that the Fedwire securities service will also recover 98.7 percent of total costs, compared with a targeted recovery rate of 100.4 percent. The underrecovery is attributed to several factors, including unbudgeted costs associated with the postponed addition and testing of Ginnie Mae securities, the FedLine for the Web project, and a write-off associated with the FedLine for Windows project.

²⁷ Includes purchase and sale activity.

²⁸ The Reserve Banks provide securities transfer services for securities issued by the U.S. Treasury, federal government agencies, government-sponsored enterprises, and certain international institutions. The priced component of this service, reflected in this memorandum, consists of revenues, expenses, and volumes associated with the transfer of all non-Treasury securities. For Treasury securities, the U.S. Treasury assesses fees for the securities transfer component of the service. The Reserve Banks assess a fee for the funds settlement component of a Treasury securities transfer; this component is not treated as a priced service.

Through August 2002, total Fedwire securities transfer volume has increased 22.5 percent compared with volume during the same period in 2001. For the full year, the Reserve Banks estimate that total Fedwire securities volume will increase 25.4 percent from 2001, compared with a budgeted 21.0 percent increase. The increased volume is primarily due to the addition of Ginnie Mae securities to the Fedwire securities service earlier this year. Higher-than-anticipated mortgage refinancing activity has also contributed to the overall increase in volume.

2003 Pricing — The Reserve Banks propose reducing the on-line transfer origination and receipt fee \$0.26 from \$0.66 to \$0.40 (39.4 percent) and lowering the per-issue, per-account maintenance fee \$0.01 from \$0.41 to \$0.40 (2.4 percent). The Reserve Banks propose retaining the off-line surcharge and account maintenance fee at their current levels. In addition, the Reserve Banks implemented a new automated claim adjustment processing feature to support automated claim adjustments related to failed securities transactions, interim accounting for securities with an accrual date different than the record date, and repurchase agreement tracking.²⁹ Phased in during the past year, this new feature allows participants to add information to transfer messages that the Fedwire securities service can use to calculate cash payments owed to counterparties involved with related transfers. Under the proposed fee structure, only participants that use this functionality (currently fewer than 100) will be charged a fee. The Reserve Banks propose establishing a \$0.38 fee per automated claim adjustment entry.

With the consolidation of operational support for processing joint custody collateral, costs for this labor-intensive product can be clearly identified and explicitly recovered by a new surcharge. The Reserve Banks, therefore, propose establishing a \$22.00 surcharge per customer-initiated joint custody account withdrawal, effective July 2003.

After many years of declining volume, the business of executing orders for the purchase and sale of Fedwire-eligible securities by the Reserve Banks will be discontinued as of year-end 2002. Banking industry consolidation and the availability of discount brokerage services have reduced significantly the need for the Reserve Banks to continue this accommodation for customers. The purchase and sale activity represents less than 0.5 percent of the costs and revenues of the securities service line.

The Reserve Banks project that the Fedwire securities service will recover 104.9 percent of costs in 2003, including imputed expenses and targeted ROE. Total costs are

²⁹ The new feature is currently available only for mortgage-backed securities; functionality for Treasury securities and other agency debt may be incorporated later.

expected to decline \$3.9 million (16.5 percent) from the 2002 estimate, primarily due to lower data communication charges, and the full-year impact of savings from the consolidation of local on-line operations support.³⁰ Staff believes that the 2003 cost projections are reasonable.

The Reserve Banks project that the volume of agency securities transfers in 2003 will increase 4.3 percent from the 2002 estimate and total revenue will decrease 11.2 percent from the 2002 estimate. The volume increase is primarily due to the full-year effect of adding Ginnie Mae securities to the service.³¹ Staff believes the 2003 securities volume and revenue projections are reasonable.

³⁰ Specifically, the Reserve Banks consolidated on-line securities operations to two sites, joint custody collateral processing to one site, and consolidated computer interface testing. The consolidation began in September 2001 and was completed in May 2002.

³¹ Ginnie Mae securities were added to the Fedwire securities service in March 2002.

**FEDERAL RESERVE
FEDWIRE SECURITIES SERVICE FEE SCHEDULE
(AGENCY SECURITIES)**

EFFECTIVE JANUARY 2, 2003³²

	Fee
Basic transfer fee	
Transfer or reversal originated or received	\$0.40
Surcharge	
Off-line transfer or reversal originated or received	\$25.00
Monthly maintenance fees	
Account maintenance (per account)	\$15.00
Issues maintained (per issue/per account)	\$0.40
Claims adjustment fee:	\$0.38
Joint custody fee:	\$22.00

Note: Bold indicates change from 2002 prices.

³² Price implementation for joint custody will begin July 1, 2003.

Attachment V

Noncash Collection

The table below lists the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for the noncash collection service.

Noncash Collection Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) [1-2]	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	2.0	1.6	0.4	0.2	111.9%
2002 (Estimate)	1.6	1.5	0.0	0.2	93.1%
2003 (Budget)	1.9	1.6	0.4	0.2	110.3%

2001 Performance — The noncash collection service recovered 111.9 percent of total expenses in 2001, including imputed expenses and targeted ROE, exceeding the targeted recovery rate of 102.5 percent. Volume for 2001 declined 20.7 percent from 2000 levels, compared with a budgeted decline of 20.9 percent, and revenue declined 16.8 percent from 2000 levels, compared with a budgeted decline of 17.7 percent. Total costs for 2001 decreased 19.5 percent over 2000 levels, compared with a 12.4 percent budgeted decline.

2002 Performance — Through August 2002, the noncash collection service recovered 105.5 percent of its costs. For full-year 2002, the Reserve Banks estimate that the noncash collection service will recover 93.1 percent of costs, including imputed expenses and targeted ROE, compared with the targeted recovery rate of 94.3 percent. This drop in the recovery rate for the year is primarily due to a 26.4 percent decrease in the average volume for the remaining four months of the year, compared with the first eight months of the year. Staff believes that full-year cost recovery will be higher than the Reserve Bank estimate.

2003 Pricing — As the number of outstanding physical municipal securities continues to decline, the volume of coupons and bonds presented for collection also declines. New issues of bearer municipal securities effectively ceased in 1983 when the Tax Equity and Fiscal Responsibility Act of 1982 removed tax advantages for investors. To simplify the pricing structure in a small and rapidly declining business, the Reserve Banks propose eliminating the practice of charging variable cash letter and coupon envelope prices and propose a single price

regardless of deposit size. Specifically, the Reserve Banks propose establishing a single fee per cash letter of \$13.00 and a single fee per coupon envelope of \$4.50. In addition, the Reserve Banks propose a \$15.00 increase (75.0 percent), from \$20 to \$35, in the return-item fee and a \$15 increase (38.0 percent), from \$40 to \$55, in the bond-collection fee. The Reserve Banks project that the noncash collection service will recover 110.3 percent of total costs, including imputed expenses and targeted ROE, in 2003. Staff believes that the Reserve Banks' projections are reasonable.

**FEDERAL RESERVE
NONCASH COLLECTION FEE SCHEDULE**

EFFECTIVE JANUARY 2, 2003

Coupon collection:	Fee
Cash letters fee	\$13.00
Coupon envelopes	\$4.50
Return items	\$35.00
Bond collection (per bond): ³³	\$55.00

Note: Bold indicates change from 2002 prices.

³³ Plus actual shipping costs.

Attachment VI
Special Cash

Special cash services represent a small portion (less than one tenth of one percent) of overall priced services provided by the Reserve Banks to depository institutions. In 2002, special cash services included wrapped coin, nonstandard packaging of currency orders and deposits, and registered mail shipments of currency and coin. The two offices that offered registered mail shipments discontinued this service in 2002. The one office that currently offers wrapped coin will discontinue this service in 2003. In 2004, nonstandard packaging of currency will be the only remaining special cash service. The table below presents the actual 2001, estimated 2002, and projected 2003 cost-recovery performance for special cash services.

Special Cash Pro Forma Cost and Revenue Performance					
(\$ millions)					
YEAR	1 REVENUE	2 TOTAL EXPENSE	3 NET INCOME (ROE) (1-2)	4 TARGET ROE	5 RECOVERY RATE AFTER TARGET ROE [1/(2+4)]
2001	2.3	2.1	0.2	0.1	103.3%
2002 (estimate)	1.4	1.4	-0.1	0.1	91.1%
2003 (budget)	0.4	0.5	0.0	0.1	77.5%

2001 Performance — In 2001, special cash services recovered 103.3 percent of total expenses, including imputed expenses and targeted ROE, compared with a targeted recovery rate of 104.4 percent.

2002 Performance — Through August 2002, special cash services recovered 103.2 percent of total expenses, including imputed expenses and targeted ROE. For full-year 2002, the Reserve Banks estimate that recovery for special cash services will decline to 91.1 percent, compared with a targeted recovery rate of 103.8 percent. The estimated underrecovery is due primarily to the Kansas City and Helena offices discontinuing registered mail shipments of currency in 2002. Kansas City discontinued this service in August 2002 primarily because of rising insurance and postage rates. In response to these increasing costs, the office increased the surcharge for registered mail shipments, which resulted in a significant volume decline, though

Kansas City will continue to incur support costs for the remainder of the year. Helena discontinued the registered mail service in October 2002 and will continue to incur support charges for the remainder of the year. In addition, coin-wrapping volume in Helena is down 23.0 percent from its 2002 budgeted volumes.

2003 Pricing — For 2003, the Reserve Banks project that special cash services will recover 77.5 percent of costs, including imputed expenses and targeted ROE. Relative to 2002 estimates, total costs are projected to decrease \$0.9 million, or 60.0 percent, and revenue is expected to decrease \$0.9 million, or 67.6 percent. Helena will discontinue the coin-wrapping service in 2003 and expects coin-wrapping volumes to decline significantly during the transition period, though it will continue to incur support costs through the end of 2003. Staff believes that the Reserve Banks' projections are reasonable.

**FEDERAL RESERVE
SPECIAL CASH SERVICES FEE SCHEDULE**

EFFECTIVE JANUARY 2, 2003

	Fee
Wrapped coin (per box) ³⁴	
Helena	\$4.00
Nonstandard packaging	
Seventh District offices (per currency order or deposit) ³⁵	\$12.00
Registered mail fees	
Helena	Discontinued October 2002
Tenth District offices	Discontinued August 2002

Note: Bold indicates change from 2002 prices.

³⁴ There are fifty rolls of coin in each box.

³⁵ This service only applies to the \$1 through \$20 denominations.

Attachment VII
Electronic Connection Fee Schedule

There are three types of electronic connections by which depository institutions access the Reserve Banks' priced services: FedLine for DOS, FedLine for the Web, and computer interface (mainframe to mainframe). The Reserve Banks allocate their costs and revenues associated with these electronic connections to the various priced services. In 2003, the Reserve Banks recommend retaining connection fees at current levels and adding three new fees associated with the rollout of FedLine for the Web: a one-time setup fee of \$50, a monthly institution-level fee of \$25, and a monthly per-subscriber fee of \$10. (Bold indicates change from 2002 prices.)

Dial – receive and send, FedLine for DOS (monthly)	\$75.00
FedLine® for the Web:	
Setup fee (one time)	\$50.00
Institution-level fee (monthly)	\$25.00
Basic subscriber fee (monthly)	\$10.00
Frame relay network (monthly):	
Frame Relay-FedLine @ up to 19.2 kbps	\$500.00
Frame Relay-Computer Interface (CI) @ 56 kbps	\$1,000.00
Frame Relay-CI @ 256 kbps	\$2,000.00
Frame Relay-CI T1	\$2,500.00

Test and contingency options:

CONNECTION TYPE	FULL CIRCUIT BACKUP ^a	FRAME CONNECTION ONLY ^b	REDUNDANT COMPONENT SET ^c
FedLine @ up to 19.2 kbps only	\$500	\$420	N/A
FedLine @ up to 19.2 kbps Spare Part Set	N/A	N/A	\$155
CI @ 56 kbps	\$845	\$765	N/A
CI @ 256 kbps	\$1,750	\$1,585	N/A
CI T1	\$2,230	\$2,010	N/A

a) Applies to production and test systems, or production and contingency systems, that are located at separate facilities, including another bank office or a third-party contingency site. This option replicates full production technology and costs; only one set of equipment components is provided. Prices shown are for full-circuit backup only located at the customer site. Multiple customers sharing a single disaster-recovery connection at a third-party provider require custom implementations.

b) Applies to production and test systems, or production and contingency systems, that are located at separate facilities. The institution uses a frame relay link connection with no ISDN dial-up backup. Only one set of equipment components is provided. Prices shown are for frame connection only located at the customer site. Multiple customers sharing a single disaster recovery connection at a third-party provider require custom implementations.

c) Includes a Cisco router, a digital service unit, and a link encryptor.