The reduction in overdrafts has been concentrated among a few institutions. For the six institutions with the largest daylight overdrafts (per-minute average overdrafts since April 14, 1994, of at least \$1 billion), average overdrafts have fallen by \$25 billion overall, or 48 percent. This decline represents 97 percent of the total reduction in perminute average overdrafts. In contrast, 44 institutions with overdrafts between \$100 million and \$1 billion had increased overdrafts, on average, with the implementation of fees. Thus, daylight overdraft fees appear to have resulted in a reduction in daylight overdrafts in the aggregate, as well as a reallocation of daylight overdrafts among institutions.

A large portion of the reduction in overdraft levels observed since April has been related to securities-transfer activity on Fedwire. Average securities-related daylight overdrafts in Federal Reserve accounts have decreased by 47 percent since implementation of daylight overdraft fees. By contrast, average Fedwire-funds-related and non-Fedwire-related daylight overdrafts combined have decreased by 26 percent.

III. Impact on the Financial Markets

Government Securities Market

The significant reduction in overdrafts related to securities-transfer activity is due primarily to changes in settlement patterns in the government securities market, in particular the overnight repurchase agreement (RP) market, and to the concentration of government securities clearing services among a few institutions—the securities clearing banks. Typically, securities dealers finance their inventories of government securities through overnight RPs with institutional investors, who exchange cash for securities and hold the securities overnight in accounts at custodian depository institutions. These securities are usually returned on Fedwire to the dealers' clearing banks by the custodian banks at the opening of business. Because funds are simultaneously debited from the clearing banks' accounts when the securities are transferred on Fedwire, substantial overdrafts are created in the clearing banks' accounts at the Federal Reserve. Overdrafts persist until new RPs are arranged and settled by deliveries of securities out of accounts at the securities clearing banks later in the day. Before implementation of daylight overdraft fees, these overdrafts typically reached a peak at around 11:00 a.m. ET.

The concentration of RP clearing activity at the securities clearing banks,

along with the substantial associated daylight overdrafts, led these institutions to expect sizeable daylight overdraft charges. As a result, they developed automated systems to allocate daylight overdraft charges to the customers whose RP activity generated the overdrafts. Thus, strong incentives were created for securities dealers to modify RP trading and settlement practices in order to minimize charges assessed by the clearing banks.

Since the implementation of daylight overdraft fees, securities dealers have accelerated the morning practice of arranging RPs, as well as the identification and pricing of the related RP securities. This practice has significantly improved the speed with which securities are delivered to RP counterparties, thereby shifting funds back to the clearing banks earlier in the day and reducing their average overdrafts at the Reserve Banks. In the aggregate, securities-related overdrafts now reach their maximum much earlier in the morning, at roughly 9:30 a.m. ET, and the largest overdrafts persist for a shorter time.

The decrease in securities-related daylight overdrafts may also be attributable, in part, to an increase in triparty repurchase agreement activity. In a tri-party RP, both parties hold securities through a common securities custodian, and the transfer of RP securities is executed on the books of the custodian rather than on Fedwire. Tri-party RPs may reduce daylight overdrafts if funds are also maintained at the custodian institution and not returned to investors on Fedwire during the day. Although no statistics are available on tri-party RP volume, major institutions have reported a large increase in tri-party RPs as a result of daylight overdraft fees. It should be noted, however, that steady growth in tri-party volume had been reported even before implementation of fees.

Other Markets and Transactions

Daylight overdrafts related to Fedwire funds transfers are more widely dispersed across depository institutions, are generated by settlement practices associated with a variety of market activities, and are characterized by a much different intraday pattern than those related to securities transfers. The largest aggregate funds-related overdrafts occur between the hours of 12:30 p.m. and 4:30 p.m. ET, with the intraday peak generally occurring at around 2:30 p.m. This period corresponds to the current settlement timing conventions, or "window," for federal funds contracts in which overnight borrowings are repaid in the

morning and the proceeds from new contracts are received in the afternoon. In addition, it is during the midafternoon period that other payment systems, such as securities depositories, impose the greatest settlement funding requirements on their members, further contributing to funds-related overdrafts in accounts at Reserve Banks.

Because funds-related overdrafts and associated daylight overdraft charges are widely dispersed among institutions, the incentives to change market conventions or risk disrupting customer relationships are much smaller in the funds markets than in the securities markets. As a result, the intraday patterns of settlements that use the Fedwire funds transfer service as well as funds-related overdrafts have remained largely unchanged. Further, the aggregate level of funds-related overdrafts has been reduced only moderately.

When the Board adopted the daylight overdraft fee policy in 1992, it identified a number of measures that institutions might take to reduce funds-related overdrafts. These included delays of less time-critical funds transfers, a shift of funds transfer activity from Fedwire to CHIPS, increased netting of funding contracts, the development of an intraday funds market, and the use of time-specific deliveries of funds.

So far, these potential responses appear to have been implemented only to a limited degree. First, only four to five percent of daily Fedwire funds transfer value has shifted from before noon to later in the day, with a negligible impact on transfer volume. Second, discussions with market participants indicate that few institutions have shifted payments from Fedwire to CHIPS. Third, anecdotal evidence suggests that institutions have increased somewhat their use of netting for overnight federal funds contracts, yet it is unclear whether the increase is the result of daylight overdraft fees or other developments in the funds markets. Anecdotal evidence also suggests that institutions have increased their use of term federal funds contracts, although market participants suggest this increase may be related more to interest rate developments than to daylight overdraft fees. Finally, neither an intraday market nor a significant increase in the timespecific delivery of funds has materialized since the implementation of daylight overdraft fees.

¹One exception is a procedural change implemented in response to daylight overdraft fees by the Participants Trust Company to permit partial disbursement of principal and interest payments on securities held at the depository to its participants earlier in the day.