United States General Accounting Office

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Report to the Chairman, Subcommittee on Financial Institutions and Consumer Credit, Committee on Financial Services, House of Representatives

September 2002

WEEKEND SETTLEMENT

Potential Benefits, Costs, and Legal Issues

GAO

Accountability * Integrity * Reliability

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United States General Accounting Office
Washington, DC 20548

September 25, 2002

The Honorable Spencer Bachus
Chairman, Subcommittee on Financial
Institutions and Consumer Credit
Committee on Financial Services
House of Representatives

Dear Mr. Chairman:

The U.S. payment system is a large and complex system of people, institutions, rules, and technologies that transfer monetary value and related information. The nation's payment system transfers an estimated $3 trillion dollars each day—nearly one third of the U.S. gross domestic product. Because of the payment system's potential to affect overall economic activity, increasing payment system efficiency remains an ongoing goal for its various participants. You asked us to examine the potential implications of a recent proposal aimed at increasing payment system efficiency by instituting weekend settlement of financial transactions. Currently, settlement—the final step in the transfer of ownership involving the physical exchange of payment or securities—occurs only during the business week. Some retailers, however, generate approximately half of their weekly sales on weekends—when depository and other financial institutions generally are closed—receiving cash, checks, and electronic payments that are not credited to their accounts until at least the next business day. These funds currently earn no interest for the retailers. The grocery industry is one segment of the retail sector where this is particularly pronounced. Grocery industry representatives have suggested that extending settlement services over the weekend could benefit retailers, the payment system, and the economy as a whole. As agreed with your staff, we identified the (1) potential benefits of weekend settlement for retailers, consumers, and the economy as a whole; (2) potential costs and operational issues for payment service providers[1] as

[1] For purposes of this report, payment service providers include depository institutions; clearing organizations; payment service areas of the Federal Reserve; private electronic credit card, debit card, and automated clearing house (ACH) networks; and investment market dealers of government securities and money market instruments. ACH refers to an electronic clearing system in which payment orders are exchanged among financial institutions, via telecommunications networks, and are handled by a data processing center.

well as lower-cost alternatives to weekend settlement; and (3) legal considerations related to instituting weekend settlement.

To identify the potential benefits, costs, and operational issues of weekend settlement, we interviewed consumer groups, retail businesses, and payment service providers including banking industry and investment market representatives, clearing organizations, and private electronic payment network operators. We also spoke with officials from various components of the Federal Reserve System (Federal Reserve) involved in the provision of payment system services and with senior staff from the Department of the Treasury involved in government securities markets and other senior staff. We obtained and analyzed data from grocery industry representatives, the U.S. Census Bureau, and the Federal Reserve to estimate the forgone interest earnings of the grocery industry that result from the current settlement schedule.[2] We also obtained information from selected foreign countries about the operating schedules of their respective settlement systems. Appendix I more fully describes our scope and methodology, appendix II depicts international settlement schedules; and appendix III details our estimation of the grocery industry's forgone interest earnings.

Overall, we conducted our work within the context of the current institutional framework, which is based, in part, on current consumer preferences in payment instruments and existing technology. However, future changes in consumer preferences in payment instruments or technological innovations could alter the relative benefits and costs of weekend settlement.

Results in Brief

Weekend settlement of financial transactions would provide small benefits to retailers and consumers, and little, if any, benefit to the economy as a whole. Although retail industry representatives stated that weekend interest earnings were the main potential benefit for businesses, our estimate of the forgone interest earnings for the grocery industry, which generates 53 percent of its sales on weekends, indicated that if weekend settlement were adopted, investment of grocery industry funds would

[2] Although depository institutions are forbidden from paying interest on commercial demand deposit accounts, see 12 C.F.R. §217.3 and Part 329 (2002), commercial customers can earn interest on funds that depository institutions place in overnight, uninsured investment accounts. This arrangement, known as a sweep account, is discussed later in this report.

provide small interest earnings to the industry.[3] The potential interest earnings represented less than 1/100 of 1 percent of grocery industry sales for the year 2000, and they would have virtually no positive impact on earnings or productivity in the retail sector. If accelerated clearing[4] and settlement of checks were adopted as a result of weekend settlement, both retailers and consumers could gain faster access to their funds. Additionally, retailers could gain accelerated availability of credit card receipts and potentially reduce the amount of cash held in their stores. However, the benefits would represent transfers of benefit primarily from consumers or depository institutions to retailers rather than new income, creating no stimulus to economic growth.

Because payment system actors and processes are interdependent, implementing weekend settlement would require payment service providers that clear and settle retail and wholesale payments to open on weekends, resulting in significantly increased operational costs. The biggest concern that payment service providers expressed to us was the cost of additional computer system and staffing resources needed to mitigate the increased risk of operational failures that weekend settlement would create. They stated that using computer systems to settle transactions on weekends would increase the risk of operational failures during the business week by eliminating weekend downtime currently used for computer system tests, upgrades, and maintenance. Payment service providers also would incur costs to hire additional staff for weekend operations. They estimated that the costs associated with these changes could increase current operating budgets up to 40 percent. Depository institution representatives we spoke with said that they would need access over the weekend to government securities and money markets so that they could obtain the funds needed to pay retailers' interest earnings.[5] However, investment industry representatives generally expected that weekend trading activity in government securities and

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[3] For purposes of this analysis, weekend sales comprise Friday, Saturday, and Sunday sales.

[4] Clearing is the process of transmitting, reconciling and in some cases, confirming payment orders or security transfer instructions before settlement, possibly including the netting of instructions and the establishment of final positions for settlement. Netting is an agreed upon offsetting of positions or obligations by trading partners that can reduce a large number of individual obligations or positions to a smaller number.

[5] We did not include equity market instruments in this report because payment service providers we spoke with stated that these instruments generally are not used to make low-risk, short-term investments for business customers' cash management purposes.

money markets would be low and therefore result in inefficient and illiquid markets. Lower-cost alternatives to weekend settlement currently exist and efforts in other areas are under way to increase payment system efficiency. With regard to lower-cost alternatives to weekend settlement, we identified banking services that provide business customers with some of the advantages of weekend settlement, but do not require payment service providers to incur costs of weekend operations. For example, some depository institutions currently provide advanced availability of weekend deposits for selected large business customers through negotiated changes to the existing banking relationships. According to payment service providers, ongoing developments to increase the efficiency of the payment system include the conversion of traditionally paper-based transactions into electronic format and the extension of Fedwire's[6] current settlement hours to facilitate global business activity.

Although there are no direct federal prohibitions against weekend settlement, state laws that are not preempted by federal laws or regulations providing for weekend settlement could interfere with development of a uniform, national 7 day settlement system.[7] Our review of federal law found nothing applicable to the payment system that would prohibit weekend settlement. However, some states have laws that prohibit banks from conducting business on Sundays.[8] Based on provisions in the National Bank Act and federal law preemption principles, the Office of the Comptroller of the Currency (OCC) has concluded that national banks are not bound by state closure laws.[9] On the other hand, federal regulators do not regulate the hours of operation for state-chartered institutions. Thus, state closure laws, if not preempted, could impede development of a uniform weekend settlement system concerning

[6] Fedwire is the Federal Reserve's real-time gross-settlement network that settles large-value or wholesale payments and book-entry securities transactions.

[7] Preemption—where a federal law or regulation overrides a state law—can occur when a federal law and a state law conflict. Preemption of a state law is rooted in the Constitution's Supremacy Clause.

[8] See, e.g., Md. Code Ann., Fin. Inst. § 5-704 (1998 & 2001 Supp.); Ga. Code Ann. § 7-1-294 (2001).

[9] See OCC Interp. Ltr. No. 706 (Jan. 8, 1996); see also 12 C.F.R. § 7.3000 (2002).

institutions in those states.[10] Preemption of state closure laws would not necessarily ensure a uniform weekend payment system, however. Under the Expedited Funds Availability Act (EFAA), as amended, and the Federal Reserve's implementing regulations, deadlines for funds availability and check returns are based on "business days," a term defined as any day other than a Saturday, Sunday, or legal holiday, and "banking days," which are defined as business days on which a bank is open to the public for conducting substantially all of its banking functions.[11] Even if banks were to conduct weekend settlement operations, a corresponding change in the definition of a business day would be needed in federal law and regulations to ensure that all participants in the payment system would make funds available and return checks within the same time frames.

This report makes no recommendations. We received comments on a draft of this report from the Board of Governors of the Federal Reserve System in which they agreed with our findings.

Background

Retail payments are relatively high-volume, low-value payments. Retail payment methods include cash, checks, debit and credit card, and ACH[12] transactions. While depository institutions provide cash processing services to retailers and other depository institutions, the Federal Reserve provides cash processing services only to depository institutions and the U.S. government. The Federal Reserve and correspondent banks[13] provide

[10] In other contexts, federal law governing the payments system preempts inconsistent state laws. For example, federal law and regulations governing the availability of deposited funds, apply to virtually all depository institutions located in the United States and preempt inconsistent state laws. See 12 U.S.C. 4007; 12 C.F.R. §§ 229.2(e), 229.20 (2002), respectively. In addition, Congress has authorized the Board of Governors of the Federal Reserve System to regulate any aspect of the payments system, including the receipt, payment, and collection of checks. See section 609(c)(1) of the Expedited Funds Availability Act (EFAA), 12 U.S.C. § 4008(c)(1) (2000).

[11] 12 U.S.C. § 4001(3) (2000); see also 12 C.F.R. § 229.2(f),(g) (2002).

[12] Typical ACH credit payments include salaries, consumer and corporate bill payments, interest and dividends, and Social Security; ACH debit payments include mortgage payments, insurance payments, and check payments that have been converted into electronic payments at the point-of-sale. FedACH is the Federal Reserve's centralized application software used to process ACH transactions.

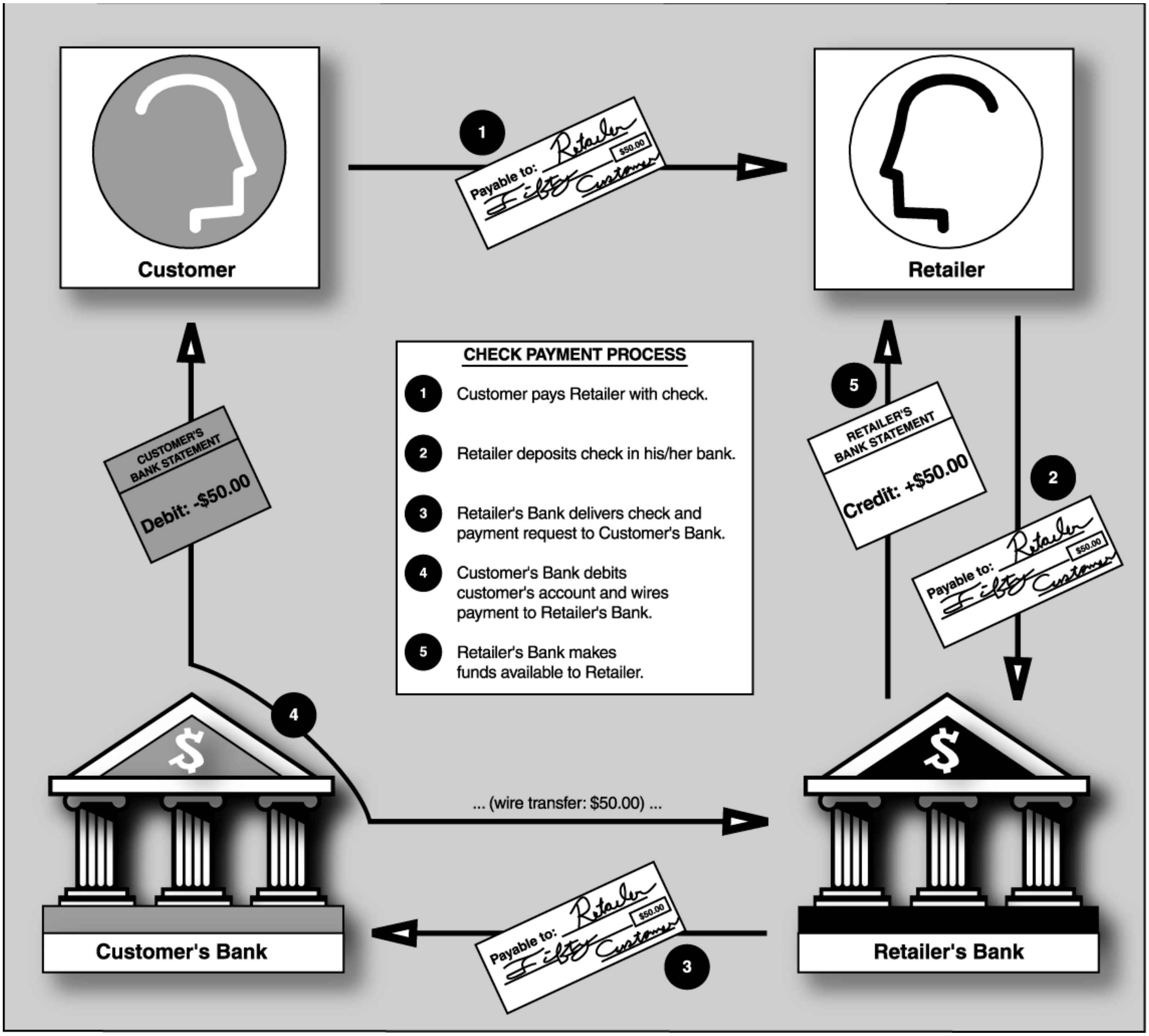
[13] A correspondent bank is a depositary institution that—by arrangement—holds the deposits of another depository institution and provides payments and other services for that depository institution.

check collection and settlement services. The Federal Reserve and private electronic network operators provide clearance and settlement services for ACH transactions. Private electronic network operators also provide clearance and settlement services for debit card, credit card, and automated teller machine (ATM) transactions.

For consumers and retailers, cash transactions are settled instantaneously. However, checks require a more complex settlement process and more time to settle. Depository institutions have several alternative methods for clearing and settling checks.[14] Figure 1 illustrates an example of how a check is settled through direct presentment—when depositary banks present checks directly to the paying bank. In practice, local checks generally settle in 1 business day and nonlocal checks generally settle in 1 to 2 business days. Currently, checks are settled on business days, which do not include weekends, resulting in a delay in the settlement of those checks deposited during the latter part of the week.

[14] We discuss these and other aspects of clearance and settlement processes in the following: U.S. General Accounting Office, *Payments, Clearance, and Settlement: A Guide to the System, Risk, and Issues*, GAO/GGD-97-73 (Washington, D.C.: June 20, 1997).

Figure 1: The Clearing and Settling of a Check

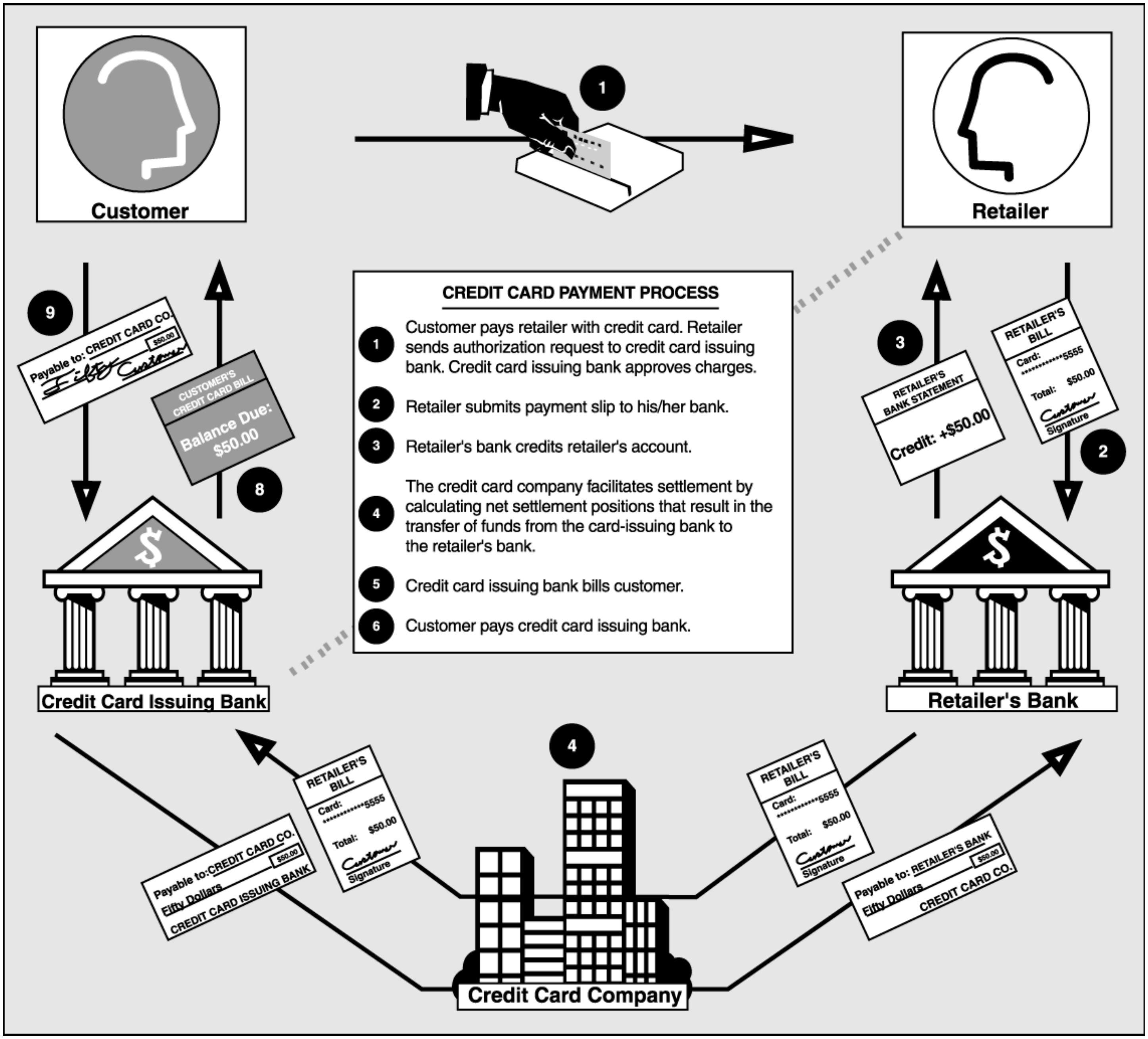


Source: GAO analysis of Federal Reserve Bank of New York information.

Credit card and debit card payments also require a complex system to clear and settle transactions. A credit transaction is initiated when a customer's card number is entered into a card reader, followed by the transaction amount. The data are transmitted to the card-issuing bank. The card-issuing bank accepts or denies the transaction. If the transaction is authorized, the customer signs to accept liability for the transaction. In the case of a debit card, the customer enters a personal identification number or sign the sales receipt to accept liability for the transaction.[15] At the end of that day, the retailer submits the customer's transactions along with all of the other credit card transactions to its depository institution (retailer's bank), which credits the retailer usually in 1 to 2 business days. The credit card company is then responsible for creating the net settlement positions that result in the transfer of funds from the card-issuing bank to the retailer's bank. These transfers typically occur by Fedwire funds tranfers through a correspondent bank. The card-issuing bank would then bill the customer. When the customer pays the bill, the cycle is complete, as shown in figure 2. Debit card transactions are authorized and cleared in a similar fashion to credit cards, except that they settle by debiting customers' accounts and crediting retailers' accounts on the next business day. Depository institutions use a variety of channels to settle credit and debit card transactions, including accounts at a common correspondent, ACH networks, and Fedwire. Final settlement of ACH transfers processed by the Federal Reserve occurs through debits and credits to the accounts of depository institutions on the books of the Federal Reserve. ACH transfers that are processed only by private-sector ACH operators are net settled through the Federal Reserve.

[15] There are two main types of debit cards—personal identification number (PIN) based and signature based cards—which clear and settle using different networks. PIN based debit cards clear through PIN debit networks, which route the transaction message to the card-issuing bank (or agent) for approval. At the end of the settlement day, the transactions are accumulated and totaled by the network, and a net credit is sent to the retailer's bank and net debits are sent to the card issuing institutions. Signature based debit cards generally use credit card networks for approval, clearance and settlement. If the transaction is approved by the customer's bank, the customer signs the receipt, therefore accepting liability. On a daily basis, credit card companies create net settlement positions for the retailer's bank and the card-issuing bank. The net positions generally are settled by Fedwire funds transfers through a correspondent bank.

Figure 2: The Clearing and Settling of a Credit Card



Source: GAO analysis of Federal Reserve Bank of New York information.

Float is created because of the time it takes to clear and settle payments, which affects retailers, consumers, and depository institutions. Float is generally defined as the lag between the receipt of a check or other payment and the settlement of that payment. This lag differs according to the method of payment. There is no float for cash. Checks are subject to the longest float, primarily due to the need to physically transport checks.

Federal law and regulations prohibit depository institutions from paying interest on demand deposits consisting primarily of commercial checking accounts.[16] Many depository institutions, however, offer "sweep" accounts to business customers as a mechanism by which these customers obtain interest earnings on account balances above negotiated account minimums.[17] During the business week, the depository institution transfers, or "sweeps," commercial checking account balances above an agreed minimum into other accounts on which interest might be paid, such as MMDAs, or into interest-earning nondeposit financial instruments.[18] Depository institutions typically invest these funds in short-term, low-risk assets, such as U.S. Treasury bills and notes, or money market mutual funds, among others. Depository institutions do not pay interest earnings on funds deposited on the weekend because they are unable to invest these funds until the next business day.

[16] 12 U.S.C. §461(a) and 12 C.F.R. Parts 217 and 329 (2002).

[17] Generally, depository institutions use two types of sweep programs. Wholesale sweeps, which have been offered to business customers since the 1970s, move checking account balances above a negotiated minimum out of the non-interest-earning checking account and into other nondeposit financial instruments that earn interest, such as money market mutual funds or other financial instruments. Retail sweeps, which first appeared in 1994, move excess checking account balances out of the checking account and into another deposit account (typically, a kind of savings deposit account, known as a money market deposit account (MMDA) on which interest can be paid. See 12 C.F.R. 204.2(d)(2).

[18] Retail sweep programs generally involve software that creates two subaccounts, an MMDA subaccount and a transaction subaccount, for each customer checking account. The subaccount structure typically is transparent to the customer: the customer cannot make deposits into, or withdrawals from, MMDA subaccount directly. To depositors, the subaccount structure appears to remain a single checking account; to the Federal Reserve, the depository institution's reservable transaction account balances have decreased. Funds are then swept out of the MMDA back into the checking account as needed to cover payments up to six times per month, in accordance with regulatory limitations on the number of monthly transfers from MMDAs. See 12 C.F.R. §§ 217.3, 204.2(b), (d) (2002).

Overall, U.S. settlement schedules are similar to settlement schedules in most G-10 countries.[19] In some Asian countries, settlement services are available for a limited number of hours on Saturdays. Specifically, in Singapore and Hong Kong settlement occurs Saturday mornings, in addition to Monday through Friday services. Recently, South Korea ended its Saturday settlement hours because many commercial banks are closed on Saturdays. Appendix II further illustrates international payment systems' operating hours.

Settlement of Financial Transactions on Weekends Would Provide Small Benefits

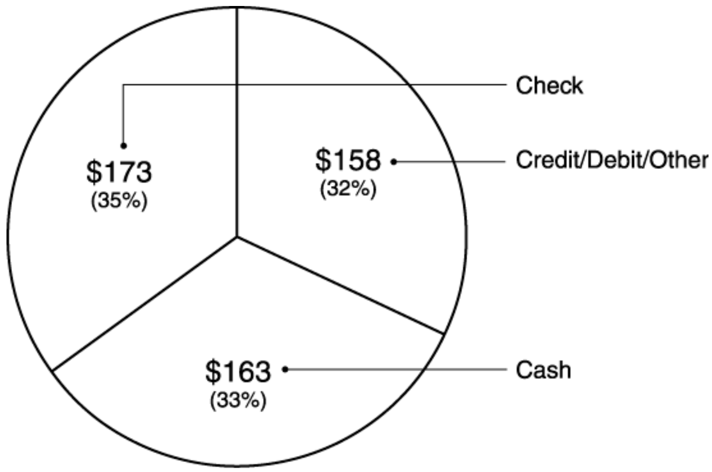
Weekend settlement of financial transactions would provide small benefits for retailers and consumers, and little, if any, benefit for the economy as a whole. Retail industry representatives identified weekend interest earnings as the main potential benefit for retailers. However, our analysis of grocery industry data indicated that the grocery industry currently forgoes small potential interest income on its weekend sales relative to the grocery industry's annual sales or the national economy. If weekend settlement were adopted, retailers also could realize some secondary benefits such as reducing the amount of cash held in stores. However, other secondary benefits such as accelerated settlement represent benefit transfers primarily from consumers or banks to retailers, creating no economic stimulus to the economy.

Forgone Interest Earnings for the Grocery Industry and Retail Sector Are Small

Although retail industry representatives identified weekend interest earnings as the main benefit for retailers, our analysis suggested that investing retailers' balances in sweep accounts and other investment vehicles over the weekend would provide minimal additional earnings to retailers and have virtually no impact relative to the economy as a whole. According to grocery industry publications, the industry had sales of $494 billion in year 2000, as seen in figure 3.

[19] The G-10 is made up of 11 major industrialized countries that consult on general economic and financial matters. The 11 countries are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States.

Figure 3: Annual Grocery Sales by Payment Method (in billions)



Note: Total sale -- $494 billion.

Source: Food Marketing Institute year 2000 data.

Therefore, because depository institutions are unable to invest retailers' weekend cash deposits until Monday, we estimated, based on grocery industry data,[20] that the grocery industry forgoes approximately $2.6 million each year in after-tax interest earnings, assuming a 2 percent interest rate, and $6.6 million a year, assuming an average 5 percent interest rate.[21] The corresponding forgone after-tax interest earnings for check transactions are $2.8 million and $7 million annually, at 2 percent and 5 percent interest rates, respectively. Finally, for credit and debit cards, the forgone interest earnings are $2.5 million and $6.4 million, at 2 percent and 5 percent interest rates, respectively. Table 1 illustrates the estimates. Appendix III provides details of our estimates. Applying the same assumptions to the entire retail sector, which had sales of $3.4 trillion in the year 2000, we estimated that the annual forgone after-tax interest earnings for that sector would be $53.9 million at a 2 percent interest rate and $134 million at a 5 percent interest rate. However, these benefits might be reduced if depository institutions raised their fees, in a

[20] According to grocery industry officials, 33 percent of sales are made with cash, 35 percent are made with checks, and 32 percent are made with credit or debit cards and other forms of payment.

[21] The forgone interest earnings were estimated by multiplying the receipts that could not be credited until Monday by short-term interest rates.

way that passed costs to retailers, to cover the increased costs associated with weekend operations.

Table 1: Annual Forgone Earnings Based on Grocery Industry Sales of $494 Billion for Year 2000

Dollars in millions

Short-term interest rates	Cash	Checks	Credit / Debit	Total	Forgone earnings as a percent of grocery sales
Forgone earnings at 2 percent	$2.6	$2.8	$2.5	**$7.9**	0.0016%
Forgone earnings at 5 percent	$6.6	$7.0	$6.4	**$20**	0.0040%

Source: GAO analysis of Food Marketing Institute and Federal Reserve data.

Retailers and Consumers Could Receive Secondary Benefits

Weekend settlement could provide a number of secondary benefits to retailers and consumers. For example, retailers noted that weekend settlement would provide secondary benefits, such as reduced amounts of cash in stores, thereby reducing potential losses due to theft and lower insurance costs. The accelerated settlement of transactions would also benefit retailers by lowering accounts receivable balances, as noncash payments owed to retailers settle faster.[22] Grocery officials stated that cash represents a large risk for store employees, and therefore, on a daily basis, grocers tend not to maintain large amounts of cash in stores. Excess sums generally are sent to depository institutions, usually via armored car services. Under the current system, depository institutions are not open to accept retailers' deposits on Saturday and Sunday evenings; therefore, deposits are generally maintained in store vaults or in bonded safes at the armored car services' facilities, which is a cost to retailers. Banking industry representatives stated that retailers currently must pay to insure large amounts of cash over the weekend. Finally, accelerated settlement of transactions could also benefit consumers if they are the recipients of check payments by making funds available sooner, assuming that the EFAA and the Federal Reserve Board's implementing regulations were amended to include weekends in the definition of "business day."

[22] Accounts receivable are assets created by selling products or services on credit.

Weekend Settlement of Check, Credit and Debit Card Transactions Would Not Create New Interest Earnings; Rather, It Would Transfer Float Income

The adoption of weekend settlement would transfer float income among retailers, consumers, and depository institutions rather than create new earnings. For example, retailers would earn interest income previously earned by check and debit card users, but no new interest income or wealth would be created. For credit cards, retailers potentially would obtain faster funds availability, but because card issuing depository institutions offer deferred payment to customers, retailers might earn additional interest income at the expense of depository institutions. For checks and debit cards, if retailers and consumers both had access to interest-bearing accounts or services provided by depository institutions, weekend settlement would move money more quickly out of customers' accounts and into retail sector accounts. On the other hand, retail industry representatives also stated that a disadvantage of weekend settlement would be that checks they had written would clear faster, thereby reducing interest currently earned on those funds. Faster funds availability from weekend settlement also could present drawbacks for consumers. Consumer advocates stated that consumers might face increased overdrafts if they did not adjust to the accelerated debiting of their checks. Weekend settlement would negatively affect those people who depend on check float to avoid account overdrafts. For example, consumers might write a check on a Friday afternoon for an amount greater than their account balance, knowing that on the following Monday their paycheck would be credited to the account and cover the amount of the check.

Further, concerning the economy as a whole, the interest payments that retailers would receive from weekend settlement reflect transfers within the economy rather than the creation of income. For example, additional income that retailers might earn from weekend settlement of checks written or debit card transactions received from customers would be offset by corresponding losses of interest by check writers, debit card users, and depository institutions. Consumers with interest-bearing checking accounts would lose the interest they would have earned on checks written on Friday evenings and Saturdays. If checks were drawn on noninterest-bearing accounts, then depository institutions would lose funds on which they were not paying interest. Corporate treasurers of retail businesses noted that although they potentially could accumulate interest earnings if weekend settlement were adopted and interest-earning accounts were available, depository institutions might pass along some or all of the costs of operating on weekends to retailers and consumers in the form of higher fees, thus lessening the gains to retailers. Depository institutions stated that to pay interest, they would need to have access to short-term investment markets on weekends. Our analysis showed that weekend settlement would be unlikely to provide any stimulus to economic growth. Its only impact would be to make funds available on weekends that would otherwise be available on Monday.

Weekend Settlement Would Require Payment Service Providers to Open on Weekends and Could Significantly Increase Costs

Because payment system actors and processes are interdependent, weekend settlement would require payment service providers that clear and settle retail and wholesale payments to open on weekends, resulting in increased capital and operational costs. The greatest concern that payment service providers expressed to us was the cost of additional computer system and staffing resources needed to mitigate the increased risk of operational failures that weekend settlement would present. Although they could not provide exact cost figures for the additional resources they would need, payment service providers stated that costs would be significant and potentially prohibitive for small depository institutions. According to payment service providers, these operational costs would exceed any potential benefits that weekend settlement could create, and likely would reduce productivity in the payment system. Moreover, they stated that alternatives to weekend settlement with lower operational costs currently exist, and that efforts in other areas are under way to increase payment system efficiency.

Weekend Settlement Would Require Payment System Providers to Open on Weekends

Because the payment system consists of interdependent processes and relationships among payment system actors, weekend settlement would require many payment service providers to open on weekends. For example, private and Federal Reserve cash and check processing centers and check transportation networks would have to be fully operational on weekends so that cash and check transactions could be cleared.[23] However, banking industry representatives pointed out that not all depository institutions' branches would need to open. National and regional clearing organizations also would need to open so that transactions among depository institutions could be cleared, netted, and settled. According to depository institution officials we spoke with, both Federal Reserve and private ACH networks would have to open on weekends to facilitate settlement of check and debit card transactions. Similarly, private electronic network providers told us that Fedwire would need to open on weekends to facilitate final settlement of credit card transactions. In addition, depository institutions also stated that once

[23] Currently, the Federal Reserve operates limited clearing operations and uses airfreight forwarding services for check transportation on weekends.

retailers' transactions are settled and their accounts are credited for weekend deposits, they would need government securities and money markets to open on weekends to invest these deposits and pay interest on excess sweep account balances. Federal Reserve and investment market officials told us that Fedwire and clearing organizations for investment markets also would need to open to clear and settle these transactions.

Eliminating Computer-System Downtime Would Increase the Risk of System Failures During the Business Week

Payment service providers we met with generally viewed weekend downtime for computer systems as critical to the smooth provision of clearance and settlement services during the business week. Payment service providers stated that most computer systems are used to test, upgrade, and maintain computer-system activities on weekends when production activities are limited. These ongoing weekend activities reduce the potential for operational failures during the business week. Business continuity testing of computer systems remains a high priority for financial markets after the terrorist attacks of September 11, 2001. These tests generally take place on weekends and sometimes take more than 1 day to complete. Depository institution and clearing organization officials also said that weekend downtime is important for resolving problems that occur when implementing new software applications or upgrades to existing applications. Like other payment service providers, Federal Reserve officials told us that the Federal Reserve uses weekends to maintain and test its payment service applications and its internal accounting system that are used to settle payments.

Payment Service Providers Would Incur Significant Capital Costs

Most payment service providers told us that because tests, upgrades, and maintenance would have to continue if weekend settlement were adopted, they would need additional computer hardware and software to simultaneously perform weekend settlement and regular weekend activities, thereby increasing capital costs. One private electronic payment network that moved from a 5 day production schedule to a 7 day production schedule for transaction processing characterized its costs as substantial. The network had to purchase additional hardware to double computer system capacity so that it could maintain complete redundancy in production, contingency, and testing activities 7 days a week. Representatives for the network said that their case could be an example of the potential hardware resources that other payment service providers could face if weekend settlement were adopted. Officials at a large depository institution and investment market representatives pointed out that payment service providers would have to modify each line of relevant software code to reflect Saturdays and Sundays as valid settlement dates.

The depository institution officials said that their retail banking operations would require code changes for the institution's 80 software applications—with estimated costs in the millions of dollars. Clearing organizations also identified the need for additional software to carry out settlement on weekends and estimated that software costs would exceed potential hardware costs.

Human Capital Needs Would Increase Operational Costs

Additional staff needed to carry out weekend settlement also would increase operational costs for payment service providers. Some payment service providers estimated that staffing costs for weekend settlement could increase current operating budgets by up to 40 percent. For instance, depository institutions would require additional staff in departments that currently are not open on weekends, such as staff to handle check presentments[24] and return checks and staff to manage their general ledgers and Federal Reserve accounts. Banking industry representatives noted that small depository institutions that perform their own clearing and processing activities would need to hire additional staff to prepare cash and checks for weekend shipment to local Federal Reserve Banks and branches. This could be particularly costly for small depository institutions because "back-office" staffs often consist of one person. Similarly, Federal Reserve officials said that additional staff would be needed for check processing, ACH, Fedwire, internal accounting, credit and risk management, and information technology operations, as well as other support functions. Investment market representatives commented that the human capital costs of weekend operations would be high because firms likely would have to pay senior staff at premium rates to work on weekends.

Weekend Investment Markets Likely Would Be Inefficient and Illiquid

Investment market representatives said that operating on weekends would decrease market efficiency and that they generally expected that weekend markets would be inefficient and illiquid because weekend trading activity likely would be low. Investment market representatives pointed out that liquidity in weekend markets would be generated only if there were

[24] Presentment of a check occurs when a check is delivered to the bank on which it is drawn and demand for payment is made. Generally, presentment requires physical delivery of a check (directly or through the check collection process) to the bank on which it is drawn. Parties may agree, however, that delivery of information about the check (such as information encoded on the bottom of the check, or a copy or image of the check), rather than delivery of the check itself, constitutes presentment.

sufficient numbers of investment firms interested in obtaining retailers' excess sweep account balances. They noted that investment firms have many other options for short-term investment beyond government securities and money market instruments—typical investment vehicles used by depository institutions for sweep account funds. For these reasons, they noted that they sometimes recommend closing markets early before holidays, such as Good Friday, if trading volumes are low, to preserve market efficiency and create greater liquidity. In general, they did not expect weekend investment market liquidity to offset the potential operating costs. Similarly, depository institution officials and clearing organizations anticipated that weekend settlement would result in the spreading out current 5-day transaction volume over 7 days of operations, thereby decreasing system efficiency.

Proposed Variations of Weekend Settlement Are Not Practical

Two proposed variations of 7 day settlement are currently viewed as not practical and too costly. The first variation involves a 6 day settlement schedule, where settlement would occur Monday through Saturday. Payment service providers told us that a 6 day settlement schedule would present lower operational risk and costs relative to a 7 day settlement schedule, but currently would be complicated and too expensive. Some payment providers noted that once technology more generally allows faster computer processing, 6-day settlement could be possible because it would provide 1 day during which computer system maintenance could be performed. The second variation relates to selective processing of transactions by payment method—for example, weekend processing of cash or check transactions. However, according to banking industry representatives, processing and settlement by payment method would be impractical because depository institutions' demand deposit accounting systems, which debit and credit customer accounts, do not differentiate transactions by payment methods. Rather, representatives from depository institutions stated that large batches of transactions are queued for debiting from and crediting to customer accounts regardless of the payment method associated with the transaction. Federal Reserve officials also said that selective settlement also would require the supporting settlement infrastructure to open on weekends, such as Fedwire funds transfer and securities transfer services. Therefore, such an approach would not lower operational costs of settling transactions on weekends.

Lower-cost Alternatives Are Currently Available

We identified current banking services that provide business customers with some of the advantages of weekend settlement but do not require payment service providers to incur costs of weekend operations. For example, officials at a large depository institution said that one of its large business customers requested a service whereby, on Mondays, the depository institution provides backdated interest on funds that the customer deposits on Mondays, as if the funds had been deposited and credited to the customer's account over the weekend. Officials from the depository institution noted that this service is no different than other services in that it is provided to the customer for a fee. Banking industry representatives told us that some depository institutions offer "fully analyzed" accounts, whereby they calculate the average daily account balances[25] of commercial customers and determine daily interest earnings credit based on those figures. They noted that fully analyzed accounts allow account fees and charges to be offset by earnings credit based on the average daily collected account balance. Depository institution officials and banking industry representatives said that these services are offered within the context of existing relationships with commercial customers. They generally viewed these services as alternative methods of providing weekend interest earnings for business customers that do not require other payment service providers to be in operation on weekends.

Other Efforts Are Under Way to Increase Efficiency in the Payment System

According to Federal Reserve and clearing organization officials, ongoing efforts to increase payment system efficiency relate to extending Fedwire's hours of operation during the business week to correspond with activity in Asian markets. Although extending Fedwire's hours of operation would not provide retailers with weekend interest earnings, it could increase efficiency in the payment system by allowing firms to consolidate risk management resources. Payment service providers generally expected that in the short term, increased efficiency in the payment system would come from converting traditionally paper-based payment methods into electronic form. Some payment service providers said that check truncation—the conversion of a paper check into an electronic equivalent that is transmitted in place of the original check—would eliminate the float that transporting checks creates in the check

[25] Depository institutions build the cost of maintaining noninterest bearing required reserves into their calculations.

collection process.[26] Officials at one clearing organization said that weekend settlement costs could be lowered if there were an increase in electronic payment instruments and a corresponding decline in paper-based payment instruments within the payment system.

Federal Laws Do Not Directly Prohibit Weekend Settlement; However, State Closure Laws Could Impede Development of a Uniform Weekend Settlement System

Our legal research found no federal law that would specifically prohibit banks, clearing organizations, or other entities from engaging in weekend settlement operations. Some states, however, have laws prohibiting banks from doing business on Sundays or state holidays.[27] OCC has determined that state bank closure laws do not apply to national banks.[28] National banks, therefore, would not be prohibited from engaging in weekend settlement operations. However, in states prohibiting banks from operating on certain days, state-chartered banks would be precluded from conducting such operations on those days unless the closure laws were preempted. The federal financial institution regulators do not specifically regulate the hours of operation of state-chartered institutions, so state closure laws generally have not been preempted with respect to such institutions.[29] We express no opinion regarding the extent to which the Federal Reserve, pursuant to its authority over the payment system, could preempt state closure laws in order to provide for weekend settlement

[26] The Federal Reserve recently proposed legislation to facilitate check truncation. Under the Federal Reserve's proposed Check Truncation Act, banks could agree, as they can today, to send check images or information to each other electronically rather than exchange the original checks. The proposed legislation would create a new instrument, called a "substitute check," from an electronic check image that would be the legal equivalent of the original check, potentially streamlining the check collection and return process, even in cases in which banks do not have electronic exchange agreements. The Federal Reserve indicated that the purpose of its proposed legislation was to foster payment system innovation and enhance the efficiency of the payment system by reducing some of the legal impediments to check truncation that exist under current law.

[27] See, e.g., Md. Code Ann., Fin. Inst. § 5-704 (1998 & 2001 Supp.); Ga. Code Ann. § 7-1-294 (2001); La. Rev. Stat. Ann. 1 § 55.D (2002).

[28] See OCC Interp. Ltr. No. 706 (Jan. 8, 1996); see also 12 C.F.R. § 7.3000 (2002).

[29] Hours of operation are pertinent to supervisory determinations regarding community access to an institution's services, however.

services.[30] It appears that Congress could choose to preempt such laws through legislation. Because they have not been preempted, state closure laws applicable to state banks could interfere with the development of a uniform national weekend settlements system. Our research indicates, however, that a relatively small number of states have Sunday closure laws.

In addition to state closure laws, development of a weekend settlement system involves other legal considerations. For example, under the EFAA and the Federal Reserve's Regulation CC, deposited funds must be made available and checks must be returned within time periods based on "business days" and "banking days." The term "business day" is defined as a calendar day other than a legal holiday, Saturday, or Sunday; a "banking day" is a business day on which a bank office conducts substantially all of its banking operations.[31] Even if banks were to conduct settlement operations over the weekend, such operations would not necessarily result in corresponding funds availability and check returns because weekends are not counted as business days. Moreover, the settlement process could be complicated by a lack of uniformity and predictability in bank operations that might exist if banks were to conduct their clearing and settlement operations using different timetables.

Other legal considerations include the impact of wage and hour laws and matters of safety and soundness. To the extent bank employees involved in settlement operations are subject to federal and state wage and hour laws, institutions would have to ensure that weekend operations did not run afoul of provisions requiring, among other things, the payment of overtime for work in excess of 40 hours per week. Concerning safety and soundness issues, banks would have to ensure that utilizing computer systems and other resources on weekends would not compromise their ability to maintain and update financial and security systems.

[30] The Expedited Funds Availability Act (12 U.S.C. § 4001 *et seq.)* provides that the Act and regulations prescribed thereunder shall supersede inconsistent state law, with one exception. (The Act does not preempt state laws that were in effect on September 1, 1989, and that provide for shorter availability periods than does the Act.) *See* 12 U.S.C. § 4007 and 12 CFR 229.20 (2002). Congress has charged the Federal Reserve with responsibility for prescribing regulations to implement the as well as for regulating any aspect of the payment system in order to carry out the provisions of the Act 12 U.S.C. § 4008(a),(c)(1) (authorizing Board of Governors, in order to carry out the provisions of the Act, to regulate any aspect of the payments system, including the receipt, payment, and collection of checks).

[31] 12 U.S.C. § 4001(3) (2000); 12 CFR § 229.2(f), (g) (2002).

Agency Comments and Our Evaluation

We received technical comments and corrections on a draft of this report from Treasury and the Federal Reserve that we incorporated, as appropriate. In addition, the Federal Reserve provided written comments in which it agreed that the potential costs of weekend settlement would outweigh the associated benefits. These comments are reprinted in appendix IV.

As agreed with your office, we plan no further distribution of this report until 30 days from its issue date unless you publicly release its contents sooner. We will then send copies of this report to the Chairman of the Committee on Financial Services, House of Representatives; the Ranking Minority Member of the Committee on Financial Services, House of Representatives; the Ranking Minority Member of the Subcommittee on Financial Institutions and Consumer Credit, House of Representatives; the Secretary of the Department of the Treasury; and the Chairman of the Board of Governors of the Federal Reserve System. We will make copies available to others on request. In addition, this report is also available on GAO's Web site at no charge at http://www.gao.gov.

Please contact me or Barbara Keller, Assistant Director, at (202) 512-8678 if you or your staff have any questions concerning this letter.

Sincerely yours,

Davi M. D'Agostino
Director, Financial Markets and Community Investment

Appendix I: Scope and Methodology

Determining the Potential Benefits of Weekend Settlement

To determine the potential benefits of weekend settlement, we interviewed and requested data from consumers groups, retail representatives, and payment service providers.[32] We focused our study on the clearance and settlement of retail payments made by cash (which requires no clearing and settles instantaneously), checks, debit, and credit cards. We spoke with consumer advocacy groups to obtain the consumer perspective, and we interviewed representatives from industries within the retail sector, including grocery industry and home improvement industry representatives. We focused on the grocery industry because the majority of sales take place on weekends and primarily involve cash, check, and debit card transactions.

Estimation of the Forgone Interest Earnings of the Grocery Industry

To estimate the forgone interest earnings of the grocery industry, we obtained studies from third-party sources, some of which were conducted by industry participants. We have not assessed the quality of the research methodologies used in these studies. We used calendar year 2000 grocery industry sales data from the *Progressive Grocer* (PG), an industry publication. This was the latest year for which complete information was available. We also obtained grocery industry sales data from the U.S. Census Bureau for comparison purposes. We used the results of a payments study, performed by a large electronic network provider, that tracked the purchasing behavior of 20,000 consumers to determine what percentage of grocery sales are made with cash, check, and debit cards, respectively. We also used the results of a consumer survey on when consumers shop during the week, published in the Progressive Grocer 2001 Annual Report and short-term interest rate data from the Board of Governors of the Federal Reserve System. Appendix III provides details on our calculation of the forgone interest earnings.

[32] In this report, we refer to depository institutions, clearing organizations, the payment service areas of the Federal Reserve System (Federal Reserve), private electronic credit card, debit card, and automated clearing house (ACH) networks, and government securities dealers as payment service providers.

Determining the Potential Costs and Operational Issues of Weekend Settlement

We spoke with payment system providers to gain their perspectives on the potential costs and operational issues involving weekend settlement. We interviewed officials from several depository institutions, banking and bond market industry representatives, clearing organizations, and private electronic payment network operators. We interviewed officials from various components of the Federal Reserve involved in the provision of payment system services including cash and check processing, check transportation, ACH services, wholesale payments services, and open market operations.[33] We also spoke with senior staff from the Department of the Treasury about the potential implications of weekend settlement on the Treasury securities market.

We obtained information from corporate treasury representatives on the perceived advantages and disadvantages of weekend settlement. Finally, to analyze and compare U.S. settlement schedules, we obtained information from representatives of central banks in selected foreign countries on the operating schedules of their respective settlement systems. We also obtained information from central banks' Web sites. We focused our analysis of international settlement schedules on countries with relatively modern, industrialized economies in selected geographic areas—specifically, Asia, Europe, North America, Australia, and New Zealand, as depicted in appendix II.

Identifying Potential Legal Considerations Raised by Weekend Settlement

We based our analysis of potential legal considerations involving weekend settlement on research of relevant federal and state statutes, regulations, judicial decisions, and other legal databases, and conducted interviews with banking agency attorneys and representatives of payment system providers.

[33] Through open market operations, the Federal Reserve buys and sells U.S. government securities in the secondary market to directly adjust the level of nonborrowed reserves in the banking system. This adjustment to reserves influences the federal funds rate. Changes in the federal funds rate often have a strong effect on other short-term interest rates. The Open Market Desk of the Federal Reserve Bank of New York engages in the trades on behalf of the Federal Reserve System. Decisions about the purchase or sale of securities in the open market are based on a directive that was developed by the Federal Open Market Committee.

We conducted our work in Washington, D.C., Atlanta, Georgia, and New York, New York, between February and September 2002 in accordance with generally accepted government auditing standards.

Appendix II: Operating Hours of Wholesale Settlement Systems in Selected Countries

Country	Wholesale System	Days	Hours in Local and Greenwich Mean Time (GMT) Zone
United States	Fedwire	Mon – Fri	12:30 am – 6:30 pm (GMT –5)
	CHIPS	Mon – Fri	12:30 am – 5:00 pm (GMT –5)
Japan	Bank of Japan – Network (BOJ – NET)	Mon – Fri	9:00 am – 8:00 pm (GMT +9)
Canada[a]	Large Value Transfer System (LVTS)	Mon – Fri	8:00 am – 6:00 pm (GMT –5)
European Union[b]	Trans-European Automated Real-time Gross settlement Express Transfer (TARGET)	Mon – Fri	7:00 am – 6:00 pm (GMT +1)
Australia	Society for Worldwide Interbank Financial Telecommunications – Payment Delivery System (SWIFT – PDS)	Mon – Thu Fri	9:15 am – 4:30 pm (GMT +10) 9:15 am – 5:00 pm
New Zealand	Exchange Settlement Account System (ESAS)	Mon – Fri Sat - Sun	9:00 am –7:00 pm (GMT +12) 8:00 pm –8:40 am (+1 day) Closed 12:01 am Sat – 11:59 pm Sun
Hong Kong	Hong Kong Dollar Real Time Gross Settlement (HKD RTGS)	Mon – Fri Sat	9:00 am – 5:30 pm (GMT +8) 9:00 am – 12:00 pm
Singapore	Monetary Electronic Payment System – Interbank Funds Transfer (MEPS – IFT)	Mon – Fri Sat	9:00 am – 6:30 pm (GMT +8) 9:00 am – 2:45 pm
Korea	Bank of Korea – Wire	Mon – Fri	9:30 am – 4:30 pm (GMT +9)

Source: GAO analysis of central bank data.

[a]All countries have real-time gross settlement systems except Canada, which has a net-settlement system.

[b]The following European Union countries participate in TARGET: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, The Netherlands, Portugal, and Spain.

Appendix III: Weekend Settlement of Financial Transactions: Forgone Earnings Analysis

Grocery industry representatives said that because the settlement system is not open on weekends, retailers are losing money because the funds they receive on Friday evening, Saturday, and Sunday cannot be credited to their accounts and earn interest before Monday, at the earliest. These calculations estimate the amount of interest forgone to the grocery industry for retail transactions made by cash, checks, and credit and debit cards. This calculation measures the upper bound of forgone earnings. It assumes that every store would deposit every dollar and every check at the bank on the day that it is received. It also does not take into account that payments made by retailers, under weekend settlement, would be debited from their accounts earlier, thereby potentially decreasing their interest earnings.

Interest Rates

To measure forgone interest earnings, we used the federal funds rate, the rate at which a bank with excess reserves at a Federal Reserve district bank charges other banks that need overnight funds. This is an appropriate measure because the excess grocery funds would be invested in a similar, short-term fashion. The average federal funds rate from January 1, 1998, to January 1, 2002, was approximately 5 percent. The current federal funds rate is approximately 2 percent. We estimated forgone earnings at both of these rates.

Period of Lost Earnings

To gain credit for deposits for a given day, retailers must have deposits collected by approximately 2:00 p.m. on that day. Grocery industry representatives stated that most Friday sales tend to occur after that hour; therefore, we assumed that all proceeds from Friday, Saturday, and Sunday do not get deposited until Monday. However, Sunday proceeds deposited on Monday generally would be processed as quickly as money deposited Monday through Thursday; therefore, we did not include Sunday proceeds as idle balances.

Table 2: Estimated Forgone Earnings Analysis by Payment Method

Payment method	
Cash	**Calculations**
The Food Marketing Institute (FMI) reports grocery sales of $494 billion per year in 2000. They also report that 33 percent of sales, approximately $163B, are made in cash.	Cash sales = .33($494B)= $163B
In weekly terms this amounts to cash payments of $3.1B.	Weekly cash sales = $163/52= $3.1B
FMI reports that 12 percent of grocery sales are made on Fridays and 21 percent are made on Saturdays.	Saturday morning cash= .12($3.1B)= $377M
On Saturday mornings, grocery stores have on average $377M in cash.	Saturday cash proceeds = .21($3.1B)= $659M
On Saturdays, grocery stores take in another $659M in cash.	
If stores could gain credit for weekend deposits, they could lend out Friday's cash proceeds of $377M every Saturday and Sunday, and Saturday's proceeds of $659M every Sunday.	
If the annual interest rate is 2 percent per year, the daily interest rate is approximately .000055 per day.	.02/365= .000055
If the annual interest rate is 5 percent, the daily rate is approximately .00014 per day.	.05/365= .00014
If groceries could lend the $377M they receive on Friday on both Saturday and Sunday (a total of 104 days), and the $659M they receive on Saturday (52 days) for Sunday, they would earn approximately $4M per year, before taxes.	Annual earnings at 2 percent = (104)($377)(.000055) + (52)(659)(.000055) = $2.16+ $1.84 = $4.0M
If the interest rate were 5 percent, groceries could earn approximately $10.3M, before taxes.	Annual earnings at 5 percent = (104)($377)(.00014) + (52)(659)(.00014) = $5.49 + $4.80 = $10.3M
According to FMI, the "average effective income tax rate" (federal, state, local) for grocery stores is 35 percent. This reduces the after-tax losses due to idle funds to $2.6M annually if the interest rate is 2 percent and $6.6M annually if the interest rate is 5 percent.	($4.04M) (1-.35) = $2.6M at 2 percent, and ($10.2)(1-.35) = $6.6M at 5 percent
Checks	
FMI reports grocery sales of $494B per year. They also report that 68 percent of sales are made in cash and checks. Additionally they note that 33 percent of retail sales are made in cash. Therefore, check sales must represent 35 percent.	Cash and check total = .68 Cash = .33 Check = .35 Check sales = .35($494B) = $173B
In weekly terms this amounts to check payments of $3.3B.	Weekly check sales = $173/52 = $3.3B

Payment method	
Cash	**Calculations**
FMI reports that 12 percent of grocery sales are made on Fridays and 21 percent are made on Saturdays.	Saturday morning checks = .12($3.3B) = $396M
On Saturday mornings, grocery stores have on average $396M in checks.	Saturday checks proceeds = .21($3.3B) = $693M
On Saturdays, grocery stores take in another $693M in checks.	
If stores could gain credit for weekend deposits, they could lend out Friday's check proceeds of $396M every Saturday and Sunday, and Saturday's proceeds of $693M every Sunday.	
If the annual interest rate is 2 percent per year, the daily interest rate is approximately .000055 per day.	.02/365 = .000055
If the annual interest rate is 5 percent the daily rate is approximately .00014 per day.	.05/365 = .00014
If groceries could lend the $396M they receive on Friday on both Saturday and Sunday (a total of 104 days), and the $693M they receive on Saturday (52 days) for Sunday, they would earn approximately $4.25M per year, before taxes.	Annual earnings at 2 percent = (104)($396)(.000055) + (52)(693)(.000055) = $2.27+ $1.98 = $4.25M
If the interest rate were 5 percent, groceries could earn approximately $10.82M, before taxes.	Annual earnings at 5 percent = (104)($396)(.00014) + (52)(693)(.00014)
According to FMI the "average effective income tax rate" (federal, state, local) for grocery stores is 35 percent. This reduces the after tax losses due to idle funds to $2.8M annually if the interest rate is 2 percent and $7M annually if the interest rate is 5 percent.	= $5.77 + $5.05 = $10.82M ($4.25M) (1-.35)= $2.8M at 2 percent, and ($10.82)(1-.35) = $7M at 5 percent
Credit/Debit Cards and Other	
FMI reports grocery sales of $494B per year. They also report that 68 percent of sales are made in cash and checks. Therefore, credit/debit/other sales must represent 32 percent.	Cash and Check total = .68 Credit/Debit/Other = .32 Check sales = .32($494B) = $158.1B
In weekly terms this amounts to credit/debit/other payments of $3.0B.	Weekly sales = $158.1/52 = $3.0B
FMI reports that 12 percent of grocery sales are made on Fridays and 21 percent are made on Saturdays.	
On Friday evenings, grocery stores have on average $360M in credit/debit/other transactions.	Friday evening credit/debit/other transactions = .12($3.0B) = $360M
On Saturdays, grocery stores take in another $630M in credit/debit/other transactions.	Saturday credit/debit/other proceeds = .21($3.0B) = $630m
If stores could gain credit for weekend deposits, they could lend out Friday's credit/debit/other proceeds of $360M every Saturday	

Payment method	
Cash	**Calculations**
and Sunday, and Saturday's proceeds of $630M every Sunday.	
If the annual interest rate is 2 percent per year, the daily interest rate is approximately .000055 per day. If the annual interest rate is 5 percent the daily rate is approximately .00014 per day.	.02/365 = .000055 .05/365 = .00014
If groceries could lend the $360M they receive on Friday on both Saturday and Sunday (a total of 104 days), and the $630M they receive on Saturday (52 days) for Sunday, they would earn approximately $3.9M per year, before taxes.	Annual earnings at 2 percent = (104)($360)(.000055) + (52)(630)(.000055) = $2.1+ $1.8 = $3.9M
If the interest rate were 5 percent, groceries could earn approximately $9.8M, before taxes.	Annual earnings at 5 percent = (104)($360)(.00014) + (52)(630)(.00014) = $5.2 + $4.6 = $9.8M
According to FMI the "average effective income tax rate" (federal, state, local) for grocery stores is 35 percent. This reduces the after tax losses due to idle funds to $2.5M annually if the interest rate is 2 percent and $6.4M annually if the interest rate is 5 percent.	($3.9M) (1-.35)= $2.5M at 2 percent, and ($9.8M)(1-.35) = $6.4M at 5 percent

Note: "M" represents dollars in millions, and "B" represents dollars in billions.

Source: GAO analysis of Food Marketing Institute and U.S. Census Bureau data.

Appendix IV: Comments from the Board of Governors of the Federal Reserve System

BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D.C. 20551

LOUISE L. ROSEMAN
DIRECTOR
DIVISION OF
RESERVE BANK OPERATIONS
AND PAYMENT SYSTEMS

September 12, 2002

Ms. Davi M. D'Agostino
Director, Financial Markets and Community Investment
United States General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. D'Agostino:

Thank you for the opportunity to comment on the General Accounting Office's draft report titled *Weekend Settlement: Potential Benefits, Costs, and Legal Issues*. We agree with the report's conclusion that the costs of weekend settlement outweigh the associated benefits.

We have provided detailed comments on the draft report under separate cover.

Sincerely,

Louise L. Roseman

Email: Louise.Roseman@frb.gov
Phone: (202) 452-2789 • Fax: (202) 452-2746

Appendix V: GAO Contacts and Staff Acknowledgments

GAO Contacts

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Acknowledgments

In addition to those named above, Tonita W. Gillich, Marc Molino, Robert Pollard, Carl Ramirez, Barbara Roesmann, Nicholas Satriano, Paul Thompson, and John Treanor made key contributions to this report.

Appendix VI: Related GAO Products

U.S. General Accounting Office, *Payment Systems: Central Bank Roles Vary, but Goals Are the Same*, GAO-02-303 (Washington, D.C.: (February 25, 2002).

U.S. General Accounting Office, *Check Relay: Controls in Place Comply With Federal Reserve Guidelines*, GAO-02-19 (Washington, D.C.: December 12, 2001).

U.S. General Accounting Office, *Federal Reserve System: Mandated Report on Potential Conflicts of Interest*, GAO-01-160 (Washington, D.C.: November 13, 2000).

U.S. General Accounting Office, *Retail Payments Issues: Experience With Electronic Check Presentment*, GAO/GGD-98-145 (Washington, D.C.: July 14, 1998).

U.S. General Accounting Office, *Payments, Clearance, and Settlement: A Guide to the Systems, Risks, and Issues*, GAO/GGD-97-73 (Washington, D.C.: June 20, 1997).

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