

## **Item 7A. Quantitative and Qualitative Disclosures about Market Risk.**

### **Risk Management**

#### **Risk Management Policy and Control Structure.**

Risk is an inherent part of the Company's business and activities. The extent to which the Company properly and effectively identifies, assesses, monitors and manages each of the various types of risk involved in its activities is critical to its soundness and profitability. The Company's broad-based portfolio of business activities helps reduce the impact that volatility in any particular area or related areas may have on its net revenues as a whole. The Company seeks to identify, assess, monitor and manage, in accordance with defined policies and procedures, the following principal risks involved in the Company's business activities: market risk, credit risk, operational risk, legal risk and funding risk. Funding risk is discussed in the "Liquidity and Capital Resources" section of "Management's Discussion and Analysis of Financial Condition and Results of Operations." The Company's currency exposure relating to its net monetary investments in non-U.S. dollar functional currency subsidiaries is discussed in Note 12 to the consolidated financial statements.

Risk management at the Company is a multi-faceted process with independent oversight that requires constant communication, judgment and knowledge of specialized products and markets. The Company's senior management takes an active role in the risk management process and has developed policies and procedures that require specific administrative and business functions to assist in the identification, assessment and control of various risks. In recognition of the increasingly varied and complex nature of the global financial services business, the Company's risk management policies, procedures and methodologies are evolutionary in nature and are subject to ongoing review and modification.

The Management Committee, composed of the Company's most senior officers, establishes the overall risk management policies for the Company and reviews the Company's performance relative to these policies. The Management Committee has created several Risk Committees to assist it in monitoring and reviewing the Company's risk management practices. These Risk Committees, as well as other committees established to manage and monitor specific risks, review the risk monitoring and risk management policies and procedures relating to the Company's market and credit risk profile, sales practices, pricing of consumer loans and reserve adequacy, legal enforceability, and operational and systems risks.

The Market Risk, Credit Risk, Controllers, Treasury, and Law and Compliance Departments (collectively, the "Control Groups"), which are all independent of the Company's business units, assist senior management and the Risk Committees in monitoring and controlling the Company's risk profile. The Market and Credit Risk Departments have operational responsibility for measuring and monitoring aggregate market and credit risk, respectively, with respect to the Company's institutional trading activities and are responsible for risk policy development, risk analysis and risk reporting to senior management and the Risk Committees. In addition, the Internal Audit Department, which also reports to senior management, periodically examines and evaluates the Company's operations and control environment. The Company is committed to employing qualified personnel with appropriate expertise in each of its various administrative and business areas to implement effectively the Company's risk management and monitoring systems and processes.

The following is a discussion of the Company's risk management policies and procedures for its principal risks (other than funding risk). The discussion focuses on the Company's securities trading (primarily its institutional trading activities) and consumer lending and related activities. The Company believes that these activities generate a substantial portion of its principal risks. This discussion and the estimated amounts of the Company's market risk exposure generated by the Company's statistical analyses are forward-looking statements. However, the analyses used to assess such risks are not predictions of future events, and actual results may vary significantly from such analyses due to events in the markets in which the Company operates and certain other factors described below.

## **Market Risk.**

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, volatilities, correlations or other market factors, such as liquidity, will result in losses for a position or portfolio.

Sound risk management is an integral part of the culture at the Company. The various business units and trading desks are responsible for ensuring that market risk exposures are well-managed and prudent. The Control Groups help ensure that these risks are measured and closely monitored and are made transparent to senior management. A variety of limits are designed to control price and liquidity risk. Market risk is monitored through various measures: statistically (using Value-at-Risk (“VaR”) and related analytical measures); by measures of position sensitivity; and through routine stress testing conducted in collaboration with the business units by the Market Risk Department. The material risks identified by these processes are summarized in reports produced by the Market Risk Department that are circulated to, and discussed with, senior management.

## **Trading and Related Activities.**

***Primary Market Risk Exposures and Market Risk Management.*** During fiscal 2001, the Company had exposures to a wide range of interest rates, equity prices, foreign exchange rates and commodity prices—and associated volatilities and spreads—related to the global markets in which it conducts its trading activities. The Company is exposed to interest rate risk as a result of its market-making activities and proprietary trading in interest rate sensitive financial instruments (e.g., risk arising from changes in the level or implied volatility of interest rates, the timing of mortgage prepayments, the shape of the yield curve and credit spreads for credit-sensitive instruments). The Company is exposed to equity price and implied volatility risk as a result of making markets in equity securities and derivatives and maintaining proprietary positions. The Company is exposed to foreign exchange rate and implied volatility risk as a result of making markets in foreign currencies and foreign currency options and from maintaining foreign exchange positions. The Company is exposed to commodity price and implied volatility risk as a result of trading in physical commodities (such as crude and refined oil products, natural gas, electricity, and precious and base metals) and related derivatives.

The Company manages its trading positions by employing a variety of risk mitigation strategies. These strategies include diversification of risk exposures and hedging through the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (e.g., futures, forwards, swaps and options). The Company manages the market risk associated with its trading activities on a Company-wide basis, on a worldwide trading division level and on an individual product basis. The Company manages and monitors its market risk exposures in such a way as to maintain a portfolio that the Company believes is well-diversified in the aggregate with respect to market risk factors and reflects the Company’s aggregate risk tolerance as established by the Company’s senior management.

Aggregate market risk limits have been approved for the Company and for each major trading division of the Company worldwide (equity, fixed income, foreign exchange and commodities). Additional market risk limits are assigned to trading desks and, as appropriate, products and regions. Trading division risk managers, desk risk managers, traders and the Market Risk Department monitor market risk measures against limits in accordance with policies set by senior management.

The Market Risk Department independently reviews the Company’s trading portfolios on a regular basis from a market risk perspective utilizing VaR and other quantitative and qualitative risk measures and analyses. The Company’s trading businesses and the Market Risk Department also use, as appropriate, measures such as sensitivity to changes in interest rates, prices, implied volatilities and time decay to monitor and report market risk exposures. Stress testing, which measures the impact on the value of existing portfolios of specified changes in market factors for certain products, is performed periodically and is reviewed by trading division risk managers, desk risk managers and the Market Risk Department. Reports summarizing material risk exposures are produced by the Market Risk Department and are disseminated to senior management.

**Value-at-Risk (VaR).** The statistical technique known as VaR is one of the tools used by the Company to measure, monitor and review the market risk exposures of its trading portfolios. The Market Risk Department calculates and distributes daily VaR-based risk measures to various levels of management.

**VaR Methodology, Assumptions and Limitations.** The Company estimates VaR using a model based on historical simulation for major market risk factors and Monte Carlo simulation for name-specific risk in certain equity and fixed income exposures. Historical simulation involves constructing a distribution of hypothetical daily changes in the value of trading portfolios based on two sets of inputs: historical observation of daily changes in key market indices or other market factors (“market risk factors”); and information on the sensitivity of the portfolio values to these market risk factor changes. In the case of the Company’s VaR, approximately four years of historical data are used to characterize potential changes in market risk factors. The Company’s 99%/one-day VaR corresponds to the negative change in portfolio value that, based on historically observed market risk factor movements, would have been exceeded with a frequency of 1%, or once in 100 trading days.

The Company’s VaR model generally takes into account linear and non-linear exposures to price risk and linear exposures to implied volatility risks. Market risks that are incorporated in the VaR model include equity and commodity prices, interest rates, foreign exchange rates and associated implied volatilities. As a supplement to the use of historical simulation for major market risk factors, the Company’s VaR model uses Monte Carlo simulation to capture name-specific risk in equities and in corporate and high-yield bonds. For example, the model includes measures of name-specific risk for approximately 10,000 equity names and approximately 200 classes of corporate and high-yield bonds.

VaR models such as the Company’s should be expected to evolve over time in response to changes in the composition of trading portfolios and to improvements in modeling techniques and systems capabilities. For example, during fiscal 2001, as part of the Company’s ongoing program of VaR model enhancement, position and risk coverage were broadened and risk measurement methodologies were refined for certain energy (natural gas and electricity) and fixed income products.

Among their benefits, VaR models permit estimation of a portfolio’s aggregate market risk exposure, incorporating a range of varied market risks; reflect risk reduction due to portfolio diversification or hedging activities; and can cover a wide range of portfolio assets. However, VaR risk measures should be interpreted carefully in light of the methodology’s limitations, which include the following: past changes in market risk factors may not always yield accurate predictions of the distributions and correlations of future market movements; changes in portfolio value in response to market movements (especially for complex derivative portfolios) may differ from the responses calculated by a VaR model; VaR using a one-day time horizon does not fully capture the market risk of positions that cannot be liquidated or hedged within one day; the historical market risk factor data used for VaR estimation may provide only limited insight into losses that could be incurred under market conditions that are unusual relative to the historical period used in estimating the VaR; and published VaR results reflect past trading positions while future risk depends on future positions. The Company is aware of these and other limitations and, therefore, uses VaR as only one component in its risk management oversight process. As explained above, this process also incorporates stress testing and extensive risk monitoring, analysis, and control at the trading desk, division and Company levels.

**VaR for Fiscal 2001.** The table below presents the Company’s VaR for each of the Company’s primary market risk exposures and on an aggregate basis at November 30, 2001 and November 30, 2000, incorporating substantially all financial instruments generating market risk that are managed by the Company’s institutional trading businesses. This measure of VaR incorporates most of the Company’s trading-related market risks. However, a small proportion of trading positions generating market risk was not covered, and the modeling of the risk characteristics of some positions involved approximations that could be significant under certain circumstances. For example, risks associated with residential mortgage-backed securities have been approximated as it is difficult to capture precisely these risks within a VaR context.

Aggregate VaR also incorporates (a) the funding liabilities related to institutional trading positions and (b) public-company equity positions recorded as principal investments by the Company. The incremental impact on VaR of these non-trading positions was not material as of November 30, 2001 and November 30, 2000, and, therefore, the table below does not separately report trading and non-trading VaRs.

Non-publicly traded principal investments made by the Company are not reflected in the VaR results reported below. As of November 30, 2001, the aggregate carrying value of such investments was approximately \$500 million.

Since VaR statistics reported below are estimates based on historical position and market data, VaR should not be viewed as predictive of the Company's future financial performance or its ability to monitor and manage risk. There can be no assurance that the Company's actual losses on a particular day will not exceed the VaR amounts indicated below or that such losses will not occur more than once in 100 trading days:

<u>Primary Market Risk Category</u>	<u>99%/One-Day VaR at November 30,</u>	
	<u>2001</u>	<u>2000</u>
	<u>(dollars in millions, pre-tax)</u>	
Interest rate .....	\$30	\$28
Equity price .....	23	27
Foreign exchange rate .....	6	5
Commodity price .....	24	17
Subtotal .....	83	77
Less diversification benefit(1) .....	41	35
Aggregate VaR .....	<u>\$42</u>	<u>\$42</u>

- (1) Diversification benefit equals the difference between Aggregate VaR and the sum of the VaRs for the four risk categories. This benefit arises because the simulated 99%/one-day losses for each of the four primary market risk categories occur on different days; similar diversification benefits also are taken into account within each such category.

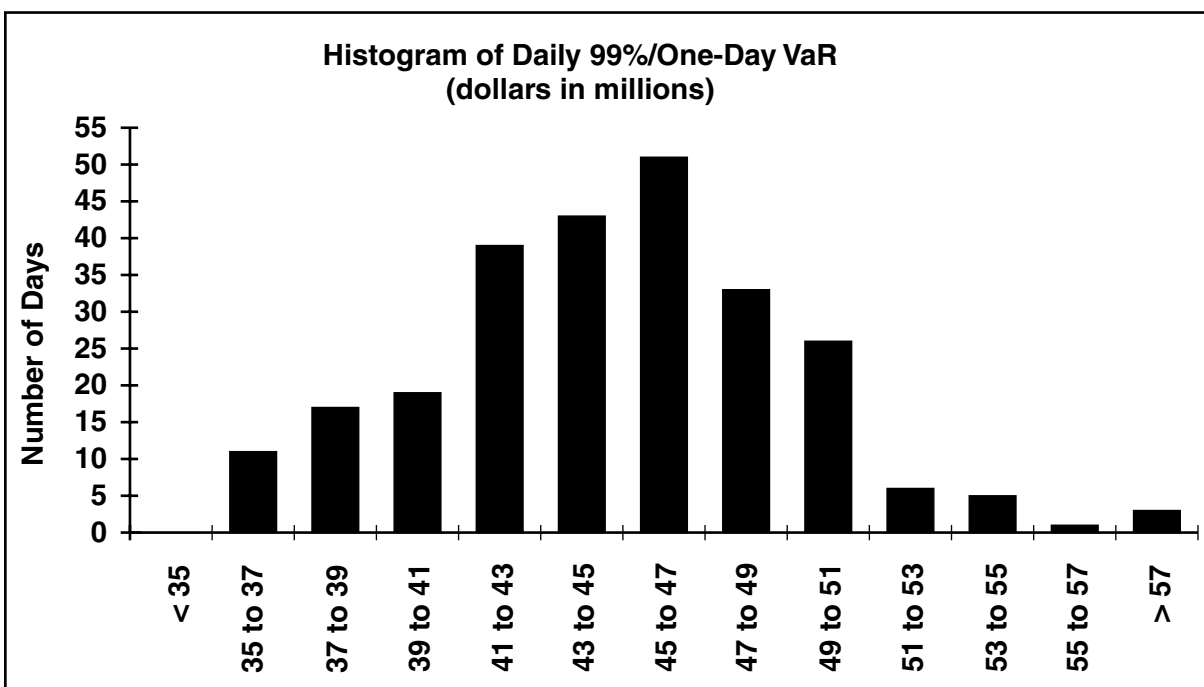
The Company's Aggregate VaR at November 30, 2001 was unchanged from the prior year, as an increase in commodity price VaR, which primarily reflected a model enhancement resulting in improved capture of geographic basis risk, was offset by a higher diversification benefit.

In order to facilitate comparisons with other global financial services firms, the Company's Aggregate VaR values at November 30, 2001 for other confidence levels and time horizons were as follows: \$30 million for 95%/one-day VaR and \$133 million for 99%/two-week VaR.

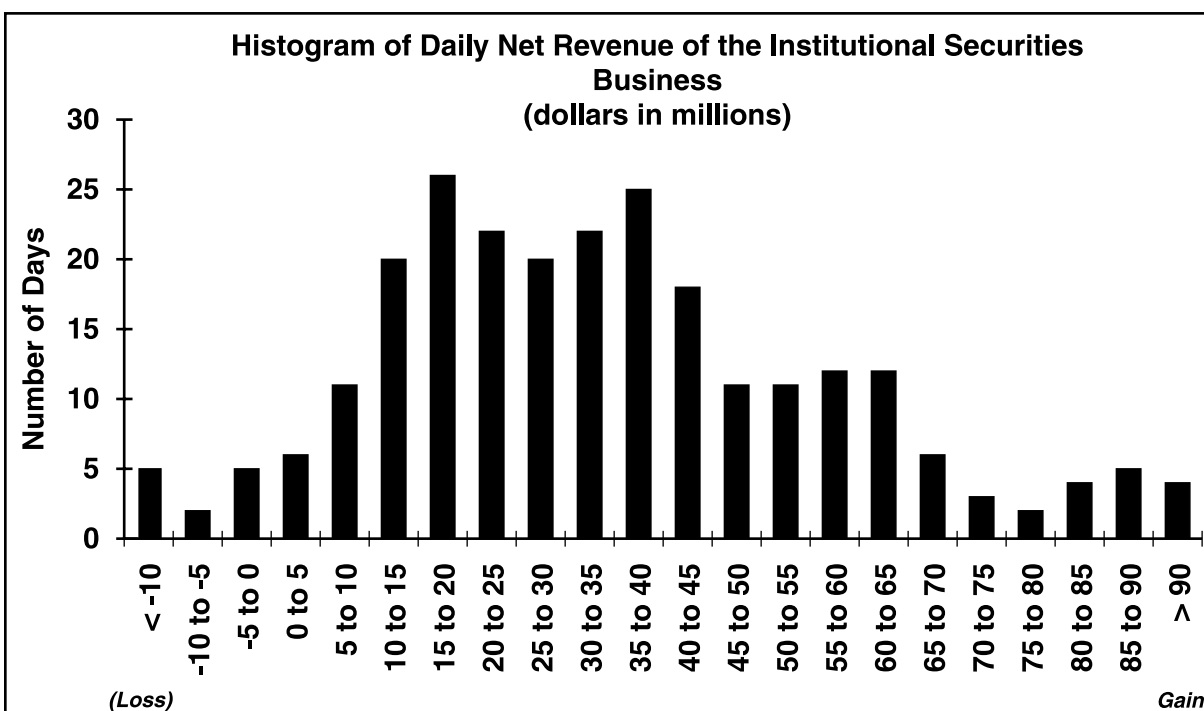
The table below presents the high, low and average 99%/one-day trading VaR over the course of fiscal 2001 for substantially all of the Company's institutional trading activities. Certain market risks included in the year-end VaR discussed above are excluded from this measure (e.g., equity price risk in public company equity positions recorded as principal investments by the Company and certain funding liabilities related to trading positions):

<u>Primary Market Risk Category</u>	<u>Daily 99%/One-Day VaR for Fiscal 2001</u>		
	<u>High</u>	<u>Low</u>	<u>Average</u>
	<u>(dollars in millions, pre-tax)</u>		
Interest rate .....	\$46	\$23	\$31
Equity price .....	47	14	23
Foreign exchange rate .....	13	2	6
Commodity price .....	39	14	24
Trading VaR .....	\$60	\$35	\$46

The histogram below presents the Company's daily 99%/one-day VaR for its institutional trading activities during fiscal 2001:



The histogram below shows the distribution of daily revenues during fiscal 2001 for the Company's institutional trading businesses (net of interest expense and including commissions and primary revenue credited to the trading businesses):



The Company evaluates the reasonableness of its VaR model by comparing the potential declines in portfolio values generated by the model with actual trading results. There were no days during fiscal 2001 in which the Company incurred daily mark-to-market losses (trading revenue net of interest income and expense and excluding commissions and primary revenue credited to the trading businesses) in its institutional trading business in excess of the 99%/one-day VaR.

### **Consumer Lending and Related Activities.**

***Interest Rate Risk and Management.*** In its consumer lending activities, the Company is exposed to market risk primarily from changes in interest rates. Such changes in interest rates impact interest earning assets, principally credit card and other consumer loans and net excess servicing fees received in connection with consumer loans sold through asset securitizations, as well as the interest-sensitive liabilities that finance these assets, including asset-backed securitizations; long-term borrowings; deposits; Federal Funds; and short-term bank notes.

The Company's interest rate risk management policies are designed to reduce the potential volatility of earnings that may arise from changes in interest rates by having a financing portfolio that reflects the existing repricing schedules of consumer loans as well as the Company's right, with notice to cardmembers, to reprice certain fixed rate consumer loans to a new interest rate in the future. To the extent that asset and related financing repricing characteristics of a particular portfolio are not matched effectively, the Company utilizes interest rate derivative contracts, such as swap agreements, to achieve its objectives. Interest rate swap agreements effectively convert the underlying asset or financing from fixed to variable repricing or from variable to fixed repricing.

***Sensitivity Analysis Methodology, Assumptions and Limitations.*** For its consumer lending activities, the Company uses a variety of techniques to assess its interest rate risk exposure, one of which is interest rate sensitivity simulation. For purposes of presenting the possible earnings effect of a hypothetical, adverse change in interest rates over the 12-month period from its fiscal year-end, the Company assumes that all interest rate sensitive assets and liabilities will be impacted by a hypothetical, immediate 100-basis-point increase in interest rates as of the beginning of the period.

Interest rate sensitive assets are assumed to be those for which the stated interest rate is not contractually fixed for the next 12-month period. In fiscal 2001, a portion of the Company's credit card receivables was repriced to a fixed interest rate, although the Company has the right, with notice to cardmembers, to subsequently reprice these receivables to a new interest rate. Therefore, the Company considers the receivables with a fixed interest rate to be interest rate sensitive. The Company measured the earnings sensitivity for these assets from the expected repricing date, which takes into consideration the required notice period and billing cycles. In addition, assets that have a market-based index, such as the prime rate, which will reset before the end of the 12-month period, or assets with rates that are fixed at fiscal year-end but which will mature, or otherwise contractually reset to a market-based indexed or other fixed rate prior to the end of the 12-month period, are rate-sensitive. The latter category includes certain credit card loans that may be offered at below-market rates for an introductory period, such as for balance transfers and special promotional programs, after which the loans will contractually reprice in accordance with the Company's normal market-based pricing structure. For purposes of measuring rate-sensitivity for such loans, only the effect of the hypothetical 100-basis-point change in the underlying market-based indexed or other fixed rate has been considered rather than the full change in the rate to which the loan would contractually reprice. For assets that have a fixed interest rate at fiscal year-end but which contractually will, or are assumed to, reset to a market-based indexed or other fixed rate during the next 12 months, earnings sensitivity is measured from the expected repricing date. In addition, for all interest rate sensitive assets, earnings sensitivity is calculated net of expected loan losses.

Interest rate sensitive liabilities are assumed to be those for which the stated interest rate is not contractually fixed for the next 12-month period. Thus, liabilities that have a market-based index, such as the prime, commercial paper or LIBOR rates, which will reset before the end of the 12-month period, or liabilities whose rates are fixed at fiscal year-end but which will mature and are assumed to be replaced with a market-based

indexed rate prior to the end of the 12-month period, are rate-sensitive. For these fixed rate liabilities, earnings sensitivity is measured from the expected repricing date.

Assuming a hypothetical, immediate 100-basis-point increase in the interest rates affecting all interest rate sensitive assets and liabilities as of November 30, 2001, it is estimated that the pre-tax income of consumer lending and related activities over the following 12-month period would be reduced by approximately \$71 million. The comparable reduction of pre-tax income for the 12-month period following November 30, 2000 was estimated to be approximately \$62 million. The reduction in pre-tax income at November 30, 2001 was greater as compared with the prior year, primarily due to the Company's consumer loan portfolio comprising a greater proportion of receivables with a fixed interest rate at fiscal year-end 2001 and the related impact of the funding supporting the Company's consumer loans.

The hypothetical model assumes that the balances of interest rate sensitive assets and liabilities at fiscal year-end will remain constant over the next 12-month period. It does not assume any growth, strategic change in business focus, change in asset pricing philosophy or change in asset/liability funding mix. Thus, this model represents a static analysis that cannot adequately portray how the Company would respond to significant changes in market conditions. Furthermore, the analysis does not necessarily reflect the Company's expectations regarding the movement of interest rates in the near term, including the likelihood of an immediate 100-basis-point change in market interest rates, nor necessarily the actual effect on earnings if such rate changes were to occur.

### **Credit Risk.**

The Company's exposure to credit risk arises from the possibility that a customer or counterparty to a transaction might fail to perform under its contractual commitment, which could result in the Company incurring losses. With respect to its institutional securities activities, the Company has credit guidelines that limit the Company's current and potential credit exposure to any one customer or counterparty and to aggregates of customers or counterparties by type of business activity. The Credit Risk Department administers limits, monitors credit exposure and periodically reviews the financial soundness of customers and counterparties on a worldwide basis. The Company manages the credit exposure relating to its trading activities in various ways, including entering into master netting agreements, collateral arrangements, and limiting the duration of exposure. Risk is mitigated in certain cases by closing out transactions, entering into risk-reducing transactions, assigning transactions to other parties or purchasing credit protection. With respect to corporate lending, the Capital Commitment Committee, which is composed of senior managers from various departments within the Company, reviews each loan request. The Company manages the credit exposure on corporate loans in various ways, including the structure (collateral and seniority) of the loan and covenants. Risk is mitigated in certain cases by selling participation interests in a loan to other lenders, selling loans or purchasing credit protection.

With respect to certain derivative transactions, the Company requires collateral from its counterparties, principally cash and U.S. government and agency securities, to reduce default risk. The following table presents a summary of counterparty credit ratings for the replacement cost of over-the-counter derivatives in a gain position by maturity at November 30, 2001. In addition, collateral received by the Company is presented by the credit rating of the counterparties providing the collateral. The following table includes credit exposure only from over-the-counter derivative transactions and does not include other credit exposures, such as the Company's senior lending activities:

<u>Credit Rating(1)</u>	<u>Years to Maturity</u>				<u>Cross-Maturity Netting(2)</u>	<u>Net Exposure Pre-Collateral</u>	<u>Net Exposure Post-Collateral</u>
	<u>Less than 1</u>	<u>1-3</u>	<u>3-5</u>	<u>Over 5</u>			
	(dollars in millions)						
AAA .....	\$ 612	\$ 882	\$1,228	\$ 3,626	\$(1,518)	\$ 4,830	\$ 2,891
AA .....	3,288	3,576	1,990	4,730	(4,290)	9,294	6,469
A .....	3,486	2,587	1,216	4,139	(1,842)	9,586	6,636
BBB .....	1,288	737	503	896	(495)	2,929	2,200
Non-investment grade .....	1,693	851	763	734	(559)	3,482	2,736
Total .....	<u>\$10,367</u>	<u>\$8,633</u>	<u>\$5,700</u>	<u>\$14,125</u>	<u>\$(8,704)</u>	<u>\$30,121</u>	<u>\$20,932</u>

(1) Credit ratings are determined by external rating agencies or by equivalent ratings used by the Company's Credit Risk Department.

(2) Represents netting of receivable balances with payable balances for the same counterparty across maturity categories. Receivable and payable balances with the same counterparty in the same maturity category are net within such maturity category.

With respect to its consumer lending activities, potential credit card holders undergo credit reviews by the Credit Department of Discover Financial Services to establish that they meet standards of ability and willingness to pay. Credit card applications are evaluated using scoring models (statistical evaluation models) based on information obtained from applicants and credit bureaus. The Company's credit scoring systems include both industry and customized models using the Company's criteria and historical data. Each cardmember's credit line is reviewed at least annually, and actions resulting from such review may include raising or lowering a cardmember's credit line or closing the account. In addition, the Company, on a portfolio basis, performs periodic monitoring and review of consumer behavior and risk profiles. The Company also reviews the creditworthiness of prospective Discover Business Services merchants and conducts annual reviews of merchants with the greatest scrutiny given to merchants with substantial sales volume.

### **Concentration Risk.**

The Company is subject to concentration risk by holding large positions in certain types of securities or commitments to purchase securities of a single issuer, including sovereign governments and other entities, issuers located in a particular country or geographic area, public and private issuers involving developing countries or issuers engaged in a particular industry (see Note 10 to the consolidated financial statements). The Company seeks to limit concentration risk through the use of systems and procedures described in the preceding discussions of market and credit risk.

### **Operational Risk.**

Operational risk refers generally to the risk of loss resulting from the Company's operations, including, but not limited to, improper or unauthorized execution and processing of transactions, deficiencies in the Company's operating systems and inadequacies or breaches in the Company's control processes. The Company operates different businesses in diverse markets and is reliant on the ability of its employees and systems to process high numbers of transactions. These transactions may cross multiple markets and involve different currencies. In the event of a breakdown or improper operation of systems or improper action by employees, the Company could suffer financial loss, regulatory sanctions and damage to its reputation.

In order to mitigate and control operational risk, the Company has developed and continues to enhance specific policies and procedures that are designed to identify and manage operational risk at appropriate levels. For



example, the Company's securities business has procedures that require that all transactions are accurately recorded and properly reflected in the Company's books and records and are confirmed on a timely basis; that position valuations are subject to periodic independent review procedures; and that collateral and adequate documentation (e.g., master agreements) are obtained from counterparties in appropriate circumstances. With respect to its consumer lending activities, the Company manages operational risk through its system of internal controls that provides checks and balances to ensure that transactions and other account-related activity (e.g., new account solicitation, transaction authorization and processing, billing and collection of delinquent accounts) are properly approved, processed, recorded and reconciled. Disaster recovery plans are in place for critical systems on a Company-wide basis, and redundancies are built into the systems as deemed appropriate. The Company also uses periodic self-assessments and Internal Audit reviews as a further check on operational risk.

**Legal Risk.**

Legal risk includes the risk of non-compliance with applicable legal and regulatory requirements and the risk that a counterparty's performance obligations will be unenforceable. The Company is generally subject to extensive regulation in the different jurisdictions in which it conducts its business. The Company has established procedures based on legal and regulatory requirements on a worldwide basis that are designed to ensure compliance with all applicable statutory and regulatory requirements. The Company, principally through the Law and Compliance Department, also has established procedures that are designed to ensure that senior management's policies relating to conduct, ethics and business practices are followed globally. In connection with its businesses, the Company has various procedures addressing issues, such as regulatory capital requirements, sales and trading practices, new products, use and safekeeping of customer funds and securities, credit granting, collection activities, money-laundering, privacy and recordkeeping. In addition, the Company has established procedures to mitigate the risk that a counterparty's performance obligations will be unenforceable, including consideration of counterparty legal authority and capacity, adequacy of legal documentation, the permissibility of a transaction under applicable law and whether applicable bankruptcy or insolvency laws limit or alter contractual remedies.