

## **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 13 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 Company's overall risk management policies and reviews its performance relative to these policies. The Management Committee has authorized the Securities Risk Committee to assist in monitoring and reviewing the Company's market risk management practices. The Securities Risk Committee has created sub-committees that report on specific risk management issues. 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, 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 Risk and Credit 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 reports to senior management and the Company's Audit Committee, 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, implied volatilities (the price volatility of the underlying instrument imputed from option prices), 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 Company's culture. 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 by the Market Risk Department in collaboration with the business units. 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.

## **Sales and Trading and Related Activities.**

***Primary Market Risk Exposures and Market Risk Management.*** During fiscal 2002, the Company had exposures to a wide range of interest rates, equity prices, foreign exchange rates and commodity prices—and associated implied 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). 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 its major trading divisions worldwide (equity and fixed income, which includes interest rate products, credit products, 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 Company uses the statistical technique known as VaR as one of the tools used 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. The Company’s VaR model uses approximately four years of historical data 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 every 100 trading days if the portfolio was held constant for one day.

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 credit products (i.e. corporate bonds and credit derivatives).

VaR models such as the Company’s 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 2002, 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 commodity (energy, crude oil and crude-oil products) and fixed income products (credit 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 scenario analysis and extensive risk monitoring, analysis, and control at the trading desk, division and Company levels.

**VaR for Fiscal 2002.** 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, 2002 and November 30, 2001, 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, 2002 and November 30, 2001, and, therefore, the table below does not separately report trading and non-trading VaRs.

Principal investments made by the Company that are not publicly traded are not reflected in the VaR results reported below. As of November 30, 2002, the aggregate carrying value of such investments was approximately \$450 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.

The table below presents VaR for each of the Company's primary risk exposures and on an aggregate basis at November 30, 2002 and November 30, 2001:

<u>Primary Market Risk Category</u>	<u>99%/One-Day VaR</u> <u>at November 30,</u>	
	<u>2002</u>	<u>2001</u>
	<u>(dollars in millions, pre-tax)</u>	
Interest rate .....	\$41	\$30
Equity price .....	14	23
Foreign exchange rate .....	6	6
Commodity price .....	22	24
Subtotal .....	83	83
Less diversification benefit(1) .....	35	41
Aggregate VaR .....	<u>\$48</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, 2002 increased from the prior year, as an increase in interest rate VaR was partially offset by a decrease in equity price VaR. The increase in interest rate VaR is primarily related to ongoing improvements in VaR methodology that more precisely capture price risk from credit products, such as credit derivatives and securitized products.

The table below represents 95% VaR on a one-day time horizon which may be used to facilitate comparisons with other global financial services firms that report VaR at a 95% confidence interval:

<u>Primary Market Risk Category</u>	<u>95%/One-Day VaR</u> <u>at November 30,</u>	
	<u>2002</u>	<u>2001</u>
	<u>(dollars in millions, pre-tax)</u>	
Interest rate .....	\$26	\$19
Equity price .....	10	15
Foreign exchange rate .....	4	4
Commodity price .....	15	16
Subtotal .....	55	54
Less diversification benefit .....	23	24
Aggregate VaR .....	<u>\$32</u>	<u>\$30</u>

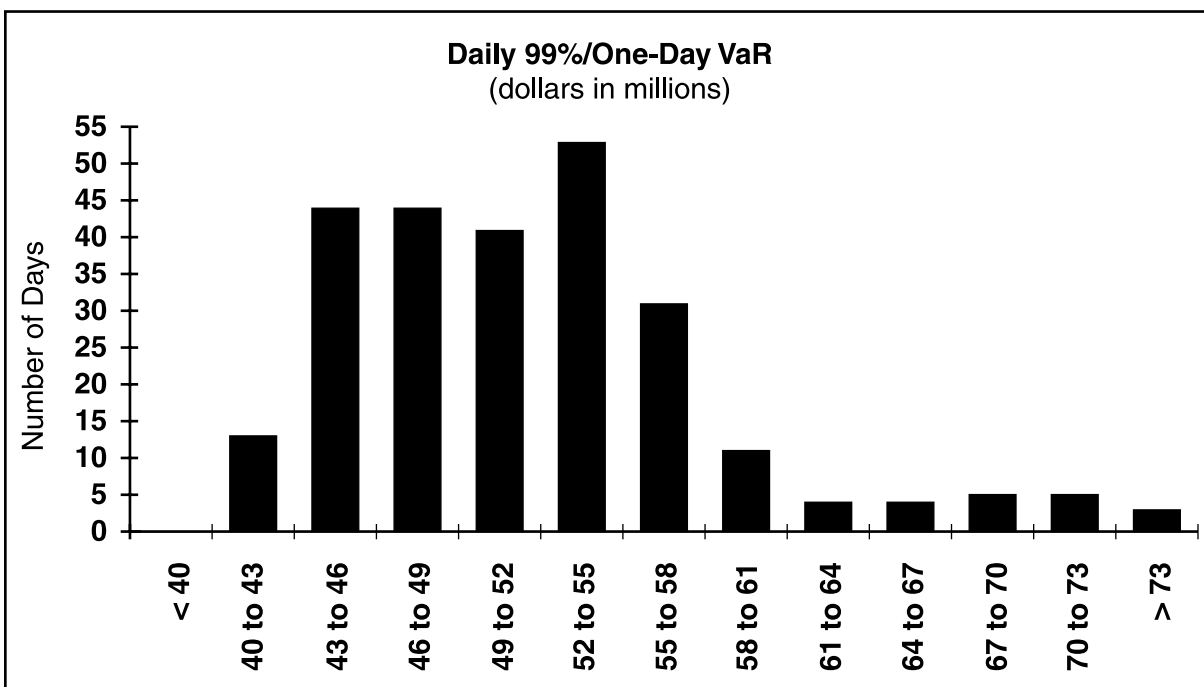
In order to facilitate comparisons with other global financial services firms that report VaR with respect to a 10-business day holding period, the Company's One-Day Aggregate VaR for a two-week time horizon at November 30, 2002 was \$102 million at a 95% confidence interval and \$153 million at a 99% confidence interval.

The tables below present the high, low and average 99% and 95%/one-day Aggregate trading VaR over the course of fiscal 2002 for substantially all of the Company's institutional trading activities. Certain market risks included in the year-end Aggregate 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 2002</u>		
	<u>High</u>	<u>Low</u>	<u>Average</u>
	(dollars in millions, pre-tax)		
Interest rate .....	\$52	\$25	\$37
Equity price .....	64	11	19
Foreign exchange rate .....	16	3	7
Commodity price .....	32	18	25
Aggregate trading VaR .....	\$83	\$39	\$51

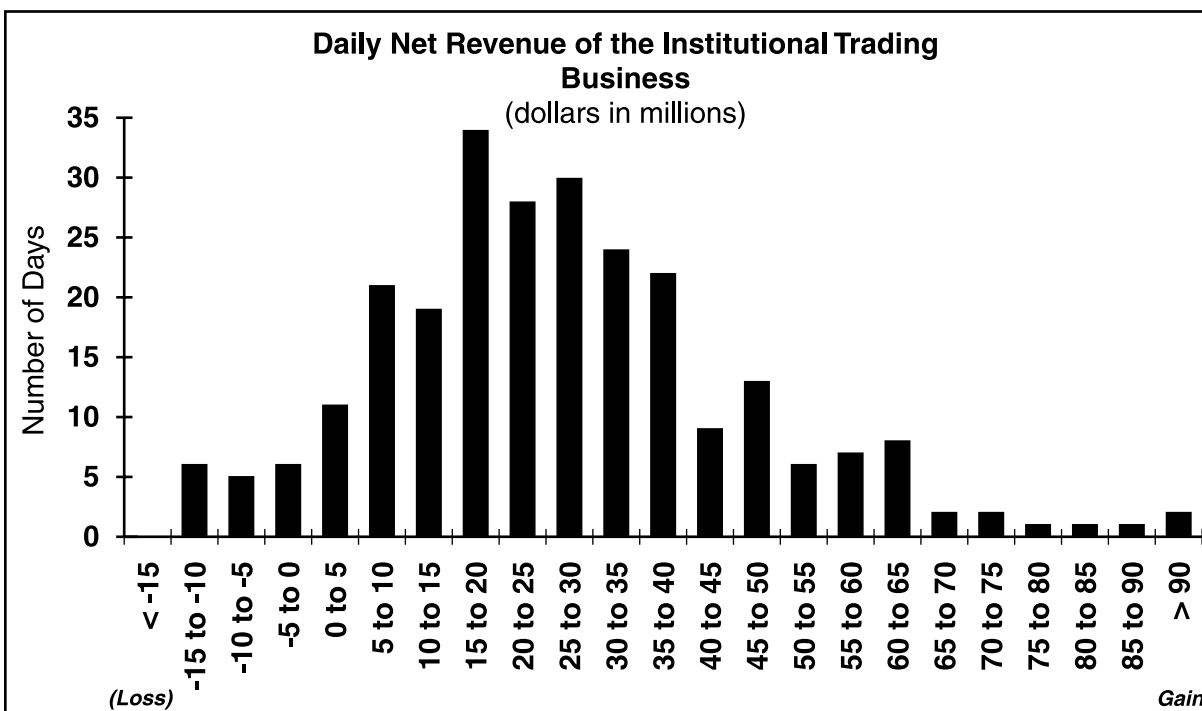
<u>Primary Market Risk Category</u>	<u>Daily 95%/One-Day VaR for Fiscal 2002</u>		
	<u>High</u>	<u>Low</u>	<u>Average</u>
	(dollars in millions, pre-tax)		
Interest rate .....	\$33	\$16	\$23
Equity price .....	45	8	13
Foreign exchange rate .....	11	2	5
Commodity price .....	22	12	17
Aggregate trading VaR .....	\$56	\$26	\$34

As shown in the table above, the Company's average 99%/one-day Aggregate trading VaR for fiscal 2002 was \$51 million. Around this average, the Company's Aggregate trading VaR varied from day to day. The histogram below presents the distribution of the Company's daily 99%/one-day Aggregate trading VaR for its institutional trading activities and shows that for more than 90% of fiscal 2002 trading days, Aggregate trading VaR ranged between \$40 million and \$61 million. The days where Aggregate trading VaR exceeded \$61 million occurred during the second quarter of fiscal 2002 and were primarily the result of a concentrated single-name equity exposure that was reduced prior to that quarter's end.



One method of evaluating the reasonableness of the Company's VaR model as a measure of the Company's potential volatility of net revenues is to compare the VaR with trading revenues. For a 99%/one-day VaR, the expected number of times that trading losses should exceed VaR during the fiscal year is three, and, in general, if trading losses were to exceed VaR more than five times in a year, the accuracy of the VaR model could be questioned.

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. The histogram below shows the distribution of daily net revenues during fiscal 2002 for the Company's institutional trading businesses (including net interest, commissions and primary revenue credited to the institutional trading businesses). There were no days during fiscal 2002 in which the Company incurred daily trading losses (even when excluding primary revenues) in its institutional trading business in excess of the 99%/one-day Aggregate trading VaR. Additionally, there were no trading days in fiscal 2002 where the largest one-day loss exceeded the minimum 99%/one-day Aggregate trading VaR (as reported in the High/Low/Average table). This suggests that VaR, as currently implemented, has been a conservative measure of the potential net revenue variability in the Company's daily trading activities.



### 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. A portion of the Company's credit card receivables have 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, 2002, 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 \$10 million. The comparable reduction of pre-tax income for the 12-month period following November 30, 2001 was estimated to be approximately \$71 million. The reduction in pre-tax income at November 30, 2002 was lower as compared with the prior year, primarily due to the impact of the assumed replacement interest rates of certain maturing fixed rate financing, reflecting the lower interest rate environment.

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.**

***Institutional Securities Activities.*** Credit risk is the risk of loss to the Company arising from possible borrower or counterparty default on a contractual financial commitment. Credit risk arising in connection with the Company's Institutional Securities activities is managed by the Credit Department and various business lines, within parameters set by the Company's senior management. Credit risk management takes place at transaction, obligor and portfolio levels. At the transaction level, the Company seeks to mitigate credit risk through management of key risk elements such as size, tenor, seniority and collateral. At the obligor level, the Company makes use of: credit syndication, assignment and sale; netting agreements and collateral arrangements; and purchased credit protection. In addition, the Credit Department periodically reviews the financial soundness of obligors of the Company. For portfolios of credit exposure, the Company, as appropriate, assesses credit risk concentrations and purchases portfolio credit hedges.

The Company has credit guidelines that limit current and potential credit exposure to any one borrower or counterparty and to aggregates of borrowers or counterparties by type of business activity. The Credit Department administers these limits and monitors and reports credit exposure relative to limits.



The Company incurs credit exposure as a dealer in OTC derivatives activities. The table below presents a summary by counterparty credit rating and remaining contract maturity of the fair value of OTC derivatives in a gain position at November 30, 2002. Fair value is shown taking into account the risk reduction arising from master netting agreements and, in the final column, net of collateral received (principally cash and U.S. government and agency securities).

### OTC Derivative Products — Financial Instruments Owned(1)

Credit Rating(2)	Years to Maturity				Cross-Maturity Netting(3)	Net Exposure Pre-Collateral	Net Exposure Post-Collateral
	Less than 1	1-3	3-5	Over 5			
	(dollars in millions)						
AAA .....	\$ 776	\$1,084	\$1,240	\$ 5,127	\$(2,193)	\$ 6,034	\$ 2,352
AA .....	3,181	2,148	2,862	7,093	(3,296)	11,988	6,821
A .....	3,581	2,291	1,410	4,078	(3,118)	8,242	4,880
BBB .....	1,452	1,210	632	1,642	(744)	4,192	2,816
Non-investment grade .	757	450	159	496	(179)	1,683	981
Unrated(4) .....	579	460	228	84	(22)	1,329	329
Total .....	<u>\$10,326</u>	<u>\$7,643</u>	<u>\$6,531</u>	<u>\$18,520</u>	<u>\$(9,552)</u>	<u>\$33,468</u>	<u>\$18,179</u>

- (1) Fair values shown present the Company's exposure to counterparties relating to the Company's OTC derivative products. The table excludes fair values corresponding to other credit exposures, such as those arising from the Company's lending activities.
- (2) Credit ratings are determined by the Company's Credit Department, using methodologies generally consistent with those employed by external rating agencies.
- (3) Amounts represent the 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 where appropriate.
- (4) In lieu of making an individual assessment of the credit of unrated counterparties, the Company makes a determination that the collateral held with respect to such obligations is sufficient to cover a substantial portion of its exposure. In making this determination, the Company takes into account various factors, including legal uncertainties and market volatility.

The following tables summarize the fair values of the Company's OTC derivative products recorded in Financial instruments owned and Financial instruments sold, not yet purchased by product category and maturity at November 30, 2002, including on a net basis, reflecting the fair value of related collateral for financial instruments owned:

### OTC Derivative Products — Financial Instruments Owned

Product Type	Years to Maturity				Cross-Maturity Netting(1)	Net Exposure Pre-Collateral	Net Exposure Post-Collateral
	Less than 1	1-3	3-5	Over 5			
	(dollars in millions)						
Interest rate and currency swaps and options, credit derivatives and other fixed income securities contracts ...	\$ 4,627	\$5,598	\$6,070	\$18,073	\$(8,988)	\$25,380	\$12,142
Foreign exchange forward contracts and options ..	2,085	247	23	20	(67)	2,308	2,132
Equity securities contracts (including equity swaps, warrants and options) .....	1,096	729	153	96	(150)	1,924	782
Commodity forwards, options and swaps ....	2,518	1,069	285	331	(347)	3,856	3,123
Total .....	<u>\$10,326</u>	<u>\$7,643</u>	<u>\$6,531</u>	<u>\$18,520</u>	<u>\$(9,552)</u>	<u>\$33,468</u>	<u>\$18,179</u>

## OTC Derivative Products — Financial Instruments Sold, Not Yet Purchased

Product Type	Years to Maturity				Cross-Maturity Netting(1)	Total
	Less than 1	1-3	3-5	Over 5		
	(dollars in millions)					
Interest rate and currency swaps and options, credit derivatives and other fixed income						
securities contracts . . . . .	\$2,989	\$6,976	\$5,514	\$11,555	\$(8,988)	\$18,046
Foreign exchange forward contracts and options	2,295	218	30	32	(67)	2,508
Equity securities contracts (including equity						
swaps, warrants and options) . . . . .	1,477	695	343	241	(150)	2,606
Commodity forwards, options and swaps . . . . .	2,579	982	250	298	(347)	3,762
Total . . . . .	<u>\$9,340</u>	<u>\$8,871</u>	<u>\$6,137</u>	<u>\$12,126</u>	<u>\$(9,552)</u>	<u>\$26,922</u>

(1) Amounts represent the netting of receivable balances with payable balances for the same counterparty across maturity and product categories. Receivable and payable balances with the same counterparty in the same maturity category are netted within the maturity category where appropriate.

Each category of OTC derivative products in the above table includes a variety of instruments, which can differ substantially in their characteristics. Instruments in each category can be denominated in U.S. dollars or in one or more non-U.S. currencies.

The fair values recorded in the above tables are determined by the Company using various pricing models. For a discussion of fair value as it affects the Company's consolidated financial statements, see "Management's Discussion and Analysis of Financial Condition and Results of Operations — Results of Operations — Critical Accounting Policies" in Part II, Item 7 and Note 2 to the consolidated financial statements. As discussed under "Critical Accounting Policies," the structure of the transaction, including its maturity, is one of several important factors that may impact the price transparency. The impact of maturity on price transparency can differ significantly among product categories. For example, single currency and multi-currency interest rate derivative products involving highly standardized terms and the major currencies (e.g., the U.S. dollar or the euro) will generally have greater price transparency from published external sources even in maturity ranges beyond 20 years. Credit derivatives with highly standardized terms and liquid underlying reference instruments can have price transparency from published external sources in a maturity range of five years, while equity and foreign exchange derivative products with standardized terms in major currencies can have price transparency from published external sources within a two-year maturity range. Commodity derivatives with standardized terms and delivery locations can have price transparency from published external sources within various maturity ranges up to 10 years, depending on the commodity. In most instances of limited price transparency based on published external sources, dealers in these markets, in their capacities as market-makers and liquidity providers, provide price transparency beyond the above maturity ranges.

**Individual Investor Activities.** With respect to the Company's Individual Investor Group, credit risk committees, composed of senior managers from various departments, monitor credit risk and exposure that originates from retail customers. Customer margin accounts, the primary source of retail credit exposure, are collateralized in accordance with internal and regulatory guidelines. The Company monitors required margin levels and established credit limits daily and, pursuant to such guidelines, requires customers to deposit additional collateral, or reduce positions, when necessary.

**Consumer Lending Activities.** 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 11 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 performs the functions required to operate its different businesses either by itself or through agreements with third parties. The Company relies on the ability of its employees, its internal systems and systems at computer centers operated by third parties 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 the Company's or third-party's systems or improper action by employees, the Company could suffer financial loss, regulatory sanctions and damage to its reputation. 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.

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 businesses have 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. With respect to its investment management activities, the Company manages operational risk related to its various data processing systems through, among other things, internal controls such as reconciliations and various backup procedures.

### **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 (see "Business — Regulation" in Part I, Item 1). 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.