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ECCH Collection

Bank of Scotia:

Integrating Risk into Corporate Strategy

*This case was written by **AV Vedpuriswar**, ICFAI Knowledge Center. It is intended to be used as the basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation.*

The case was compiled from published sources.

Bank of Scotia: Integrating Risk into Corporate Strategy

Introduction

Founded in Nova Scotia in 1832, Bank of Scotia (Scotia), Canada's second-largest bank (behind Royal Bank of Canada) provided retail, corporate, and investment banking services through more than 1,800 offices worldwide. Scotia's services included personal savings and checking accounts and lending, brokerage, and trust services. The company also offered asset management and investment banking services. Scotia which had a presence in some 50 nations overall was expanding its global presence. The bank was also eyeing acquisition targets in the US.

Overview of Risk

Scotia was exposed to four major types of risk – credit, market, liquidity and operational. The bank's risk management framework was driven by a few core principles.

- Board oversight – Risk strategies, policies and limits were subject to Board review and approval.
- Independent review – All risk-taking activities were subject to review, independent of the business lines that initiated the activity.
- Diversification – Policies and limits were designed to ensure that risks were well diversified.
- Assessment – Processes were designed to ensure that risks were properly assessed at the transaction, customer and portfolio levels.
- Review and reporting – Risk profiles of individual customers and portfolios were subjected to ongoing review and reporting to executive management and the Board.
- Accountability – Business units were accountable for all risks and the related returns, and were allocated capital in line with their risk profiles.
- Audit review – Individual risks and portfolios were subject to comprehensive internal audit review, with independent reporting to the Audit Committee of the Board by the internal audit function.

Scotia's policies aimed at ensuring that risks in the various business activities were properly identified, measured, assessed and controlled. Limits were designed to ensure that the bank's risk-taking was consistent with its business objectives and risk tolerance. Risks were managed within these limits.

Exhibit: I
Geographic distribution of earning assets

As at September 30 ($ billions)	2002 Balance	2002 % of earning assets	2001	2000	1999	1998
North America						
Canada	$ 147.8	54.8%	$ 135.3	$ 133.0	$ 122.7	$ 119.2
United States	46.4	17.2	43.1	44.0	38.9	38.9
	194.2	72.0	178.4	177.0	161.6	158.1
Europe						
United Kingdom	10.2	3.8	10.4	9.2	8.1	8.8
Germany	2.8	1.1	3.5	3.3	2.4	2.3
Ireland	2.6	0.9	1.4	0.9	1.2	0.8
France	1.4	0.5	1.5	1.9	1.7	2.4
Other	6.1	2.3	6.6	5.0	5.2	6.8
	23.1	8.6	23.4	20.3	18.6	21.1
Asia						
South Korea	2.3	0.8	1.5	1.4	1.4	1.2
Japan	1.6	0.6	1.4	1.3	1.3	2.6
Malaysia	1.6	0.6	1.7	1.3	1.2	0.8
Hong Kong	1.2	0.5	1.4	2.0	1.6	1.7
Other	3.3	1.2	3.0	2.4	2.3	3.1
	10.0	3.7	9.0	8.4	7.8	9.4
Caribbean						
Jamaica	3.4	1.3	3.2	2.8	2.7	2.4
Puerto Rico	2.6	0.9	2.4	2.1	2.0	2.0
Bahamas	1.8	0.7	1.7	1.5	1.4	1.3
Trinidad & Tobago	1.7	0.6	1.7	1.5	1.3	1.2
Other	5.9	2.2	5.2	4.6	4.2	4.0
	15.4	5.7	14.2	12.5	11.6	10.9
Latin America						
Mexico	20.3	7.5	19.7	1.5	1.2	1.4
Chile	3.6	1.3	3.0	3.1	0.4	0.4
Argentina	0.2	0.1	3.7	3.7	3.3	3.4
Other	3.7	1.4	3.9	3.3	2.8	2.9
	27.8	10.3	30.3	11.6	7.7	8.1
Middle East and Africa	0.5	0.2	0.4	0.4	0.6	0.6
General allowance[1]	(1.5)	(0.5)	(1.5)	(1.3)	(1.3)	(0.6)
Total	$ 269.5	100.0%	$ 254.2	$ 228.9	$ 206.6	$ 207.6

(1) As at October 31.

Source: Annual Report, 2002

Exhibit: II

Cross-border exposure to select geographic areas

As at October 31 ($ millions)	Loans	Interbank deposits	Trade	Government securities	Investment in subsidiaries and affiliates	Other	2002 Total	2001 Total
Asia								
Thailand	$ 78	$ –	$ 31	$ –	$ –	$ 1	$ 110	$ 144
Indonesia	55	–	–	–	–	–	55	128
Malaysia	657	1	6	312	145	1	1,122	1,031
The Philippines	59	–	6	197	–	–	262	313
	849	1	43	509	145	2	1,549	1,616
South Korea	889	–	752	630	–	22	2,293	1,554
Hong Kong	677	–	30	31	–	20	758	568
Other[2]	165	177	147	168	–	9	666	412
	2,580	178	972	1,338	145	53	5,266	4,150
Latin America								
Mexico	995	–	244	766	465[3]	4	2,474	2,082
Brazil	45	–	522	498	–	–	1,065	1,140
Argentina	73	–	9	82	–	–	164	914
Venezuela	6	–	3	190	100	1	300	350
Chile	293	174	76	–	215[3]	5	763	688
Other[4]	1,192	24	74	100	126	2	1,518	1,464
	2,604	198	928	1,636	906	12	6,284	6,638
Central and Eastern Europe	–	–	1	5	–	–	6	6
Total	$ 5,184	$ 376	$ 1,901	$ 2,979	$ 1,051	$ 65	$ 11,556	$ 10,794

(1) Cross-border exposure represents a claim, denominated in a currency other than the local one, against a borrower in a foreign country on the basis of ultimate risk.
(2) Includes China, Singapore and Taiwan.
(3) Excludes goodwill of $36 in Mexico and $110 in Chile.
(4) Includes Colombia, Costa Rica, El Salvador, Panama, Peru and Uruguay.

Source: Annual Report, 2002

Board of Directors: reviewed and approved risk management strategies, policies, standards and key limits.

Loan Policy Committee: reviewed key risk exposures and risk policies, and adjudicated risk issues referred by the Senior Credit and Market Risk committees.

Liability Committee: provided strategic direction in the management of global interest rate risk, foreign exchange risk, liquidity risk, and trading and investment portfolio decisions.

Senior Credit Committees: adjudicated non-retail credits within prescribed limits, and established the operating rules and guidelines for the implementation of credit policies. Separate committees covered commercial, international, corporate and investment banking counterparties. There were also separate senior committees which authorized major credit policy changes for retail and small business credit.

Market Risk Management and Policy Committee (MRMPC): oversaw and established standards for market and liquidity risk management processes, including the review and approval of new products, limits, practices and policies for the bank's principal trading and treasury activities.

Capital Trading Risk Committee: assessed and monitored overall market risks, risk control mechanisms, credit risk and compliance issues on an ongoing basis as they related to the trading businesses.

Credit Risk

Credit risk was the possibility of loss due to the failure of a borrower or counterparty to honour its financial or contractual obligations. Credit risk arose both in direct lending operations and in funding, investment and trading activities, where counterparties had repayment or other obligations to the Bank. The Loan Policy Committee reviewed the policies, standards and limits that controlled risks and recommended to the Board any changes that might be required from time to time. Both the Board and the Loan Policy Committee regularly reviewed the quality of the credit portfolios.

Corporate And Commercial

Adjudication of corporate and commercial credits was highly centralized. Each credit request was submitted to a credit unit independent of the business line for analysis and recommendation. All commercial and corporate exposures were risk rated using a 19-category rating system. All major credit decisions were referred to a senior credit committee for adjudication. The larger credits were referred to the Loan Policy Committee for adjudication and, in certain cases, to the Board of Directors.

Corporate and commercial credits were monitored regularly by business line and credit department personnel for any signs of deterioration. In addition, a full review and risk analysis of each client relationship was conducted annually. For higher-risk credits, these analyses were conducted more frequently.

Scotia classified its business and government credit exposures into 12 major industry groups. Exposures to various industry groups or industry segments were managed using lending criteria and guidelines unique to each industry. Regular reviews of the various segments of the credit portfolio were undertaken to ensure that changes to the quality of the portfolio were identified and, where appropriate, corrective action was taken. These reviews included the examination of the risk exposure to particular industries and countries. The results of these industry and country reviews were reported regularly to the Board of Directors. Recommendations were made by the Loan Policy Committee to the Board to adjust limits to various industries and countries.

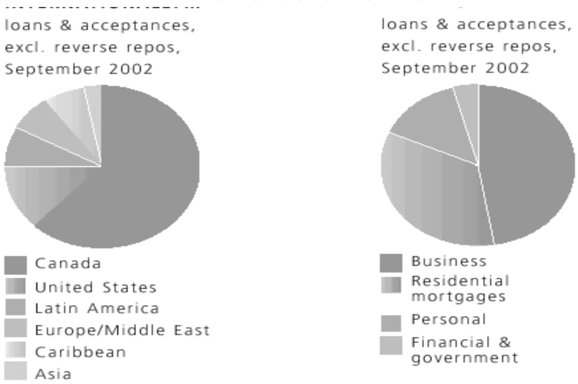
Scotia used advanced modeling techniques to evaluate risks within the various portfolios. These techniques included the use of independent data to assist in the evaluation of broad risks within the Bank's credit portfolios. Such evaluations also assisted in determining whether limits or policies needed to be changed.

Consumer
Decisions on retail credits and small commercial loans were generally made through the use of sophisticated scoring models. These models were subject to ongoing review. Proposed changes to these models or their parameters required analysis and recommendation by a credit unit independent of the business line, and approval by the appropriate senior credit committee.

Consumer credit portfolios were reviewed on a monthly basis to analyse trends in credit quality. Individual borrowers were assessed on an ongoing basis through the use of scoring models and internal analysis of predictive characteristics.

Diversification
Scotia attempted to ensure broad diversification across various types of credit risk. Limits were set for individual borrowers, particular industries, countries and certain types of lending. These limits were determined taking into account the relative risk of the borrower, industry or country. Scotia believed its exposures to various regions and types of borrowers reflected this diversification.

Figure (i)
Risk diversification



Source: Annual Report, 2002

Scotia believed its domestic retail credit quality was in excellent condition, due to its credit adjudication and portfolio management methodologies. Scotia felt that its exposure within the domestic commercial portfolio was well diversified and geographically dispersed, with the automotive, real estate and wholesale industries being the largest segments.

Portfolio Review
International portfolios, excluding Argentina, performed well in 2002. Although the market uncertainty with respect to the political situation in Brazil had lessened, the bank was closely monitoring its risk in Brazil. The bank's exposure of $1,065 million was almost entirely in government bonds and trade finance, and had declined during the year.

Scotia's U.S. loan portfolio experienced a difficult year. General economic conditions and the impact of certain well-publicized corporate scandals adversely affected credit quality. Telecommunications and cable, power and energy trading industries experienced breaches of loan covenants and frequent debt rating downgrades by rating agencies. This contributed to liquidity crises for a number of companies and an inability to access the capital markets.

Scotia did not expect further deterioration in the credit quality of the telecommunications and cable sector. The power and energy trading sector had been experiencing significant dislocation due to over-expansion in generating capacity and weaker demand. Certain segments of the sector remained under pressure. The Bank closely monitored exposures to these segments.

Given the high credit losses and inadequate returns from its U.S. loan portfolio, Scotia was reducing its limits for individual borrowers and re-examining its limits for particular industries. In addition, the bank had plans to reduce the size of the corporate loan portfolio and focus on fewer corporate relationships.

Market Risk

Market risk referred to the possibility of loss due to changes in interest rates, foreign exchange rates, market prices and volatilities that arose from the Bank's funding, investment and trading activities.

Interest rate risk arose where there was a mismatch between positions that were subject to interest rate adjustment within a specified period. Interest rate risk also arose due to changes in credit spreads, which represented the premium charged by the market for differences in general or specific credit quality and liquidity. Foreign exchange risk arose from trading activities, foreign currency earnings and investments in foreign subsidiaries. Market risk also arose because of exposure to changes in prices of assets such as precious metals and equities.

Market risk exposures were managed through key policies, standards and limits established by the Board of Directors, which were formally reviewed and approved by the Board at least annually. In addition, the Board received regular reports on risk exposures and performance of the various lines of business.

Within the policy and limit framework established by the Board, the Liability Committee (LCO) and the Market Risk Management and Policy Committee (MRMPC) provided senior management oversight of the bank's market risk exposures. The LCO primarily focused on asset liability management, which included funding and investment activities. The MRMPC approved new products, limits and practices for trading, funding and investment activities. All market risk limits were reviewed at least annually.

Risk Measurement

Scotia used a variety of techniques to identify, measure and control the market risks it assumed in its various activities.

Value at risk

Value at risk (VAR) estimated the potential loss that could result from holding a position for a specified period of time at a given level of statistical confidence. For trading books, VAR was calculated daily at a 99% confidence level, for one and 10-day holding periods, using historical simulations based on 300 days of market data. VAR was also used to evaluate risks arising in certain funding and investment portfolios.

Stress Testing

Stress testing examined the impact that abnormally large swings in market factors and periods of prolonged inactivity might have on trading portfolios. The stress-testing program was designed to identify key risks and ensure that the bank's capital could easily absorb potential losses from abnormal events. Scotia subjected its trading portfolios to more than 200 stress scenarios on a monthly basis. A selected set of stress tests was performed daily. From time to time, Scotia also used stress-testing scenarios to evaluate the quality of its investment portfolio, based on specific market events.

Sensitivity Analysis And Simulation Modeling

Sensitivity analysis assessed the impact of changes in interest rates on current earnings and on the economic value of assets and liabilities. It was applied globally to the major currencies within the bank's operations. Simulation models enabled the Bank to assess interest rate risk under a variety of scenarios over time. The models incorporated assumptions about growth, planned business mix, changes in interest rates, shape of the yield curve, embedded product options and other factors. Simulation modeling under various scenarios was particularly important for managing risk in the deposit, lending and investment products Scotia offered to its retail customers.

Gap Analysis

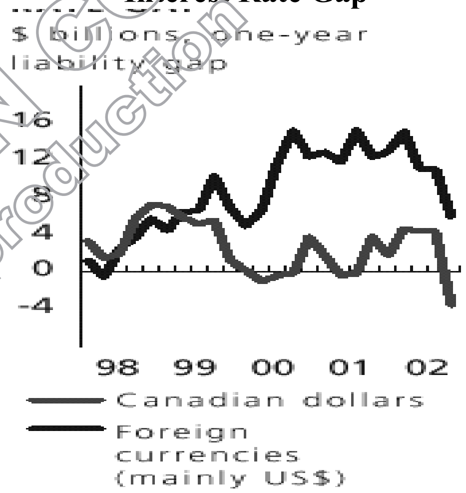
Gap analysis was primarily used to measure interest rate sensitivity. A liability gap occurred when more liabilities than assets were subject to interest rate changes during a given time period. Conversely, an asset-sensitive position arose when more assets than liabilities were subject to rate changes. Scotia applied gap analysis in its retail and wholesale banking operations.

Interest Rate Risk

Interest rate risk arising from the bank's funding and investment activities was subject to two key board-approved global limits. The annual income limit measured the impact of a specified shift in interest rates on the bank's net income. The economic value limit protected shareholder value by measuring the impact of a specified increase in interest rates on the present value of the bank's net assets. Interest rate exposures in individual currencies were also controlled by gap limits. Gap analysis, simulation modeling, sensitivity analysis and VAR were used to assess exposures and for planning purposes.

Scotia actively managed its interest rate exposures with the objective of enhancing net interest income within prudent risk tolerances. Scotia's one-year Canadian dollar liability gap had been decreasing since January 2002, and was in a modest asset-sensitive position for much of the year. As a result, the margin contribution from these risk positions declined slightly in 2002. Liability gaps in foreign currencies had also been reduced since January 2002. This decline was most pronounced in the U.S. dollar, which was the largest currency component. Margins on the foreign currency risk positions increased slightly in fiscal 2002, as exposures were positioned to benefit from falling rates.

Figure (ii)
Interest Rate Gap



Source: Annual Report, 2002

Based on Scotia's interest rate positions at the end of 2002, an immediate and sustained 100 basis point rise in interest rates across all currencies and maturities would increase net income after tax by approximately $31 million over the next 12 months. During fiscal 2002, this measure had ranged between $31 million and $(104) million. This same shock would reduce the present value of the Bank's net assets by approximately $304 million ($549 million in 2001).

Foreign Currency Risk
Foreign currency risk arising from the Bank's investments in foreign subsidiaries and foreign currency operations was subject to a Board-approved limit. Foreign currency exposures were reviewed and managed by the Liability Committee.

Equity Risk
Equity risk arose from the Bank's investing activities, and was subject to Board-approved limits. These investments included common and preferred shares, as well as a diversified portfolio of third-party managed funds.

Investment Portfolios
Investment portfolios generally consisted of debt and equity securities held for liquidity, longer-term capital appreciation or attractive after-tax yields. Investment holdings were subject to Board-approved limits. The market value of the bank's investment securities portfolio was $25 million below book value at the end of 2002, compared to a surplus of $537 million in the previous year. This decline was due to weak equity markets, lower values of emerging market debt and sales of investments in 2002.

Trading Activities
Scotia believed it was important to achieve a balance between exploiting profitable trading opportunities and managing earnings volatility. Trading activity was generally undertaken on behalf of customers, but also included a proprietary component. Trading activities were subject to various controls. There were explicit limits by currency, instrument, position and term. Positions were marked to market daily, and valuations were reviewed independently on a regular basis. The back office and risk management units independently reviewed and reported on all aspects of trading activity. They

provided daily reports of profit and loss, VAR and limit compliance with appropriate departments and executive management for evaluation and action.

Independent risk management units conducted regular reviews of models and valuations. These units executed and analyzed stress testing, sensitivity analysis and VAR calculations, and reviewed and participated in new product development.

The Board of Directors annually approved aggregate VAR and stress testing limits for the Bank's trading portfolios, and reviewed the results quarterly. The MRMPC also set VAR limits by business line and reviewed the results monthly.

Exhibit: III
10-Day Var By Risk Factor (Average, In $ Millions)

Risk Factor	**2002**	**2001**
Interest rate	$23.5	$13.4
Equities	11.5	13.7
Foreign exchange	5.4	3.9
Commodities	2.5	2.3
(Diversification)	(17.9)	(12.3)
Total VAR	$25.0	$21.0

Source: Annual Report, 2002

During fiscal 2002, the 10-day VAR for trading activities averaged $25.0 million, up $4.0 million from 2001. The increase was due to larger interest rate risk positions, combined with higher market volatility. These were partially offset by an increase in the degree of risk diversification. Trading businesses actively changed the size and direction of their interest rate positions in response to changing economic and market conditions during the year. As a result, the VAR ranged from a low of $10.4 million to a high of $50.0 million.

In fiscal 2002, daily trading revenue was positive more than 90% of the time and averaged $3.0 million per day. Scotia believed this was due to its successful positioning in the interest rate markets and growth in the credit and equity derivatives portfolios. Scotia had not experienced any trading losses in 2002 that exceeded the one-day VAR estimate.

Derivatives

Scotia used derivatives to manage market and credit risks arising from its funding and investment activities, and to lower its cost of capital. The Bank used several types of derivatives on behalf of customers and also on its own account. These included interest rate swaps and options, currency swaps, equity and credit derivatives, as well as more complex structured products.

All derivative transactions were subject to market risk control, reporting and various analytical techniques. To control credit risk, Scotia applied limits to each counterparty, measured exposure as the current fair value plus potential future exposure, and used credit mitigation techniques, such as netting and collateralization. The bank's derivatives portfolio consisted primarily of short-term instruments with high-quality counterparties. More than 90% of the credit risk amount arising from Scotia's derivative transactions was with investment grade counter-parties.

Scotia's credit derivatives activities continued to expand during fiscal 2002, with growth primarily due to credit default swaps as well as structured transactions. The bank transacted credit default swaps in its trading and investment activities and, in addition, used them to manage its credit risk. Structured transactions might involve combinations of cash and derivative products. Prior to their approval, these transactions were carefully evaluated by the Bank to identify and address the credit, market, legal, tax and other risks. These transactions were subject to a cross-functional review which involved the Global Risk Management, Taxation, Finance and General Counsel departments. All large structured derivatives transactions were subject to review by senior risk management committees. Once executed, the transactions were subject to the same ongoing credit reviews and market risk analysis as other types of derivatives transactions. Special emphasis was placed on credit ratings of the reference assets, and the valuation of credit derivatives and reference assets in these deals. Scotia believed the market risk in these deals was usually minimal.

Liquidity Risk

Liquidity risk referred to the possibility of not being able to obtain funds at a reasonable price within a reasonable time period to meet obligations as they became due.

The Board of Directors approved Scotia's liquidity and funding management policies and established limits to control the Bank's global net cumulative cash flow gap and minimum core liquid assets for key global currencies. The Board entrusted the responsibility for liquidity risk management to senior executives of the Bank through the Liability Committee which met weekly to evaluate the Bank's liquidity profile and discussed how to achieve the desired liquidity profile.

Figure (iii)
Variability of Trading Revenues

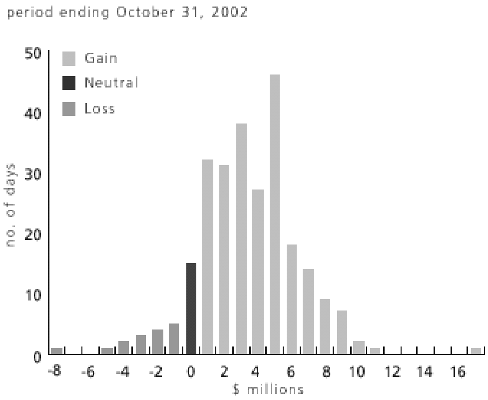
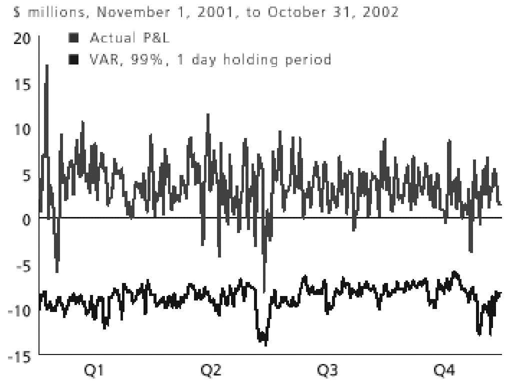


Figure (iv)
Daily Trading Revenue Vs Value at Risk



Source: Annual Report, 2002

Scotia assessed the adequacy of its liquidity position by analyzing its current liquidity position, present and anticipated funding requirements, and alternative sources of funds. Future cash inflows and outflows were forecast daily. The bank analyzed liquidity requirements under various scenarios, and reviewed the underlying assumptions for such scenarios periodically. Contingency plans included strategies for managing a liquidity crisis and procedures for addressing cash flow shortfalls in emergency situations. These plans were updated annually.

Scotia maintained large holdings of liquid assets which could be sold or pledged to meet the Bank's obligations. As on October 31, 2002, liquid assets were $67 billion (2001 – $63 billion), equal to 23% of total assets versus 22% the previous year. These assets consisted of securities, 70% (2001 – 68%), and cash and deposits, 30% (2001 – 32%). The Bank pledged securities and other liquid assets in order to secure an obligation, participate in clearing or settlement systems, or to operate in foreign jurisdictions. As on October 31, 2002, total assets pledged were $44 billion (2001 – $46 billion). Most of the pledging was associated with the bank's securities repurchase and borrowing activities.

Scotia used a variety of funding sources, including capital, deposits drawn from retail and commercial clients in the Bank's extensive domestic and international branch network, and wholesale funding. Core funds, represented by capital and core deposits of the Bank's retail and commercial clients were $135 billion as on October 31, 2002, versus $134 billion in the previous year.

This increase was relatively modest due to the redemption of debentures and the sale of the operations of Scotiabank Quilmes. As on October 31, 2002, the Bank's core funds represented 46% of total funding (2001 – 47%). In order to ensure that there was no undue reliance on a single entity as a funding source, the Bank maintained a limit on the amount of deposits it would accept from any one entity.

Exhibit: IV
Medium-Term Note Maturities ($ Millions)

	Wholesale deposit notes	*Euro MTN*	*Total*
Less than one year	$ 1,027	$ 2,930	$3,957
One to five years	2,929	5,319	8,248
Greater than five years	632	100	732
Total	**$ 4,588**	**$ 8,349**	**$12,937**

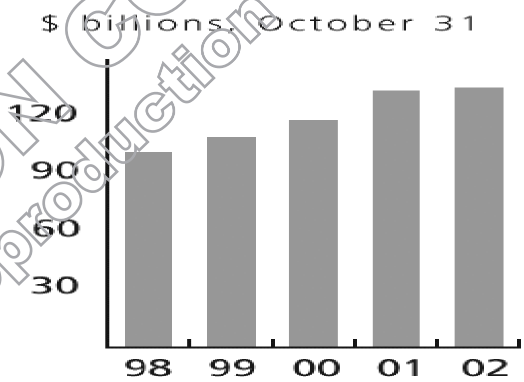
Source: Annual Report, 2002

Scotia had further enhanced its funding through note issuance programs and the sale of mortgage-backed securities. In 2002, the bank issued $3.2 billion in euro medium-term notes and $2.3 billion in mid-term notes in the domestic and U.S. markets. The bank also sold $1.8 billion of NHA mortgage-backed securities to Canada Housing Trust as a participant in the Canada Mortgage Bond Program.

Special Purpose Entities

From time to time, Scotia used special purpose entities (SPEs) to securitize certain assets, such as personal loans, mortgages and corporate loans. Such deals helped Scotia to diversify its funding sources and manage its capital requirements more efficiently.

Figure (v)
Core Funds



Source: Annual Report, 2002

To assist customers in meeting their financing needs and investment objectives, the bank marketed products that might involve the use of SPEs. Depending on the nature of the transaction, off-balance sheet arrangements involving SPEs might expose the bank to credit, market, liquidity or operational risks. SPEs were subject to review and approval processes to ensure that these risks, as well as accounting, related party and ownership issues were properly addressed. Scotia also took various steps to ensure that any funding risk associated with off-balance sheet SPEs was properly managed. The bank provided liquidity support to certain SPEs through standby funding arrangements, which were part of the Bank's indirect commitments to extend credit.

Exhibit: V
Interest rate gap

Interest rate sensitivity position[1] As at October 31, 2002 ($ billions)	Within 3 months	3 to 12 months	Over 1 year	Non-interest rate sensitive	Total
Canadian dollars					
Assets	$ 87.2	$ 16.7	$ 40.2	$ 6.1	**$ 150.2**
Liabilities	76.6	23.8	27.7	22.1	**150.2**
Gap	10.6	(7.1)	12.5	(16.0)	
Cumulative gap	10.6	3.5	16.0	–	
Foreign currencies					
Assets	107.7	11.1	16.6	10.8	**146.2**
Liabilities	109.2	15.6	6.6	14.8	**146.2**
Gap	(1.5)	(4.5)	10.0	(4.0)	
Cumulative gap	(1.5)	(6.0)	4.0	–	
Total					
Gap	$ 9.1	$ (11.6)	$ 22.5	$ (20.0)	
Cumulative gap	9.1	(2.5)	20.0	–	
As at October 31, 2001:					
Gap	$ (13.4)	$ (1.3)	$ 33.3	$ (18.6)	
Cumulative gap	(13.4)	(14.7)	18.6	–	

(1) The above figures reflect the inclusion of off-balance sheet instruments, as well as an estimate of prepayments on consumer and mortgage loans. The off-balance sheet gap is included in liabilities.

Source: Annual Report, 2002

Exhibit: VI
Liquidity

For the fiscal years ($ millions)	2002	2001	2000	1999	1998
Canadian dollar liquid assets					
Cash and deposits with Bank of Canada	$ 868	$ 1,062	$ 648	$ 642	$ 680
Deposits with other banks	686	1,124	1,131	1,327	1,399
Securities	30,310	25,284	22,129	16,571	15,109
Call and short loans	–	–	–	–	–
	31,864	27,470	23,908	18,540	17,188
Foreign currency liquid assets					
Cash and deposits with Bank of Canada	2,370	2,147	1,598	1,302	1,680
Deposits with other banks	16,348	15,827	15,368	13,844	19,141
Securities	16,194	17,702	12,058	10,229	7,531
Call and short loans	–	291	–	–	86
	34,912	35,967	29,024	25,375	28,438
Total liquid assets					
Cash and deposits with Bank of Canada	3,238	3,209	2,246	1,944	2,360
Deposits with other banks	17,034	16,951	16,499	15,171	20,540
Securities	46,504	42,986	34,187	26,800	22,640
Call and short loans	–	291	–	–	86
	$ 66,776	$ 63,437	$ 52,932	$ 43,915	$ 45,626
Liquid assets as a % of total assets	22.5%	22.3%	20.9%	19.7%	19.5%

Source: Annual Report, 2002

Operational Risk

Operational risk was the possibility of loss due to inadequate or failed internal processes, human behaviour and systems, or external events. Operational losses were divided into different categories:

- Errors or breakdowns in transaction processing, including compensation paid to customers, and disbursements made to incorrect parties and not recovered;
- Legal liability arising from failure to meet legislative or contractual requirements, including employment standards and health or safety laws;
- Fines and penalties incurred as a result of failure to comply with regulations or legislation;
- Losses due to fraud, theft and unauthorized activities;
- Loss or damage to assets due to natural disasters, acts of terrorism or war, or other accidents.

Operational risks were managed and controlled within the individual business lines, with a wide variety of checks and balances. They included overall, group-wide standards, risk management policies, a rigorous planning process, regular organizational review, thorough enforcement of the bank's guidelines for business conduct, and clearly defined and documented approval authority.

Safeguards developed to minimize the potential for material adverse impact on the bank included:

- Continuous identification, measurement, assessment and management of operational risks faced by the bank;
- Use of trained and competent staff, including a knowledgeable and experienced management team committed to risk management;
- Segregation of duties and delegation of authority within business units;
- A comprehensive business recovery planning process, including business resumption plans for all key operations areas, and extensive on- and off-site backup facilities to ensure the availability of service delivery.

Regular audits by an experienced independent internal audit department included comprehensive reviews of the design and operation of internal control systems in all business and support groups, new products and systems, and the reliability and integrity of data processing operations.

The different business units were also subject to a standard, documented compliance program. The main elements of this program were regulatory awareness, regulatory risk assessment, compliance monitoring, non-compliance and problem resolution and compliance reporting. This program was managed by the Group Compliance Department using compliance officers who had specific subsidiary, business line or departmental compliance responsibilities.

Exhibit: VII
Loans and acceptances by geography

Excludes reverse repos As at September 30 ($ billions)	2002	2001	2000	1999	1998	Percentage mix 2002	1998
Canada							
Atlantic provinces	**$ 9.4**	$ 9.3	$ 9.2	$ 9.1	$ 9.0	**5.9%**	6.2%
Quebec	**7.1**	6.9	8.1	7.5	7.6	**4.4**	5.3
Ontario	**55.5**	51.5	50.7	48.3	48.1	**34.5**	33.4
Manitoba and Saskatchewan	**4.8**	4.8	4.4	4.2	4.1	**3.0**	2.8
Alberta	**11.1**	11.1	11.0	10.0	9.9	**6.9**	6.9
British Columbia	**12.3**	12.2	12.4	12.1	12.2	**7.6**	8.4
	100.2	95.8	95.8	91.2	90.9	**62.3**	63.0
International							
United States	**21.5**	21.5	23.5	22.0	25.5	**13.3**	17.7
Europe	**10.8**	10.3	9.3	7.9	9.1	**6.7**	6.3
Caribbean	**11.6**	10.6	9.4	8.7	8.4	**7.2**	5.8
Asia	**4.9**	5.2	5.8	5.7	5.9	**3.0**	4.1
Latin America	**13.1**	15.0	7.6	4.4	4.7	**8.2**	3.2
Middle East and Africa	**0.3**	0.3	0.3	0.4	0.4	**0.2**	0.3
	62.2	62.9	55.9	49.1	54.0	**38.6**	37.4
General allowance(1)	**(1.5)**	(1.5)	(1.3)	(1.3)	(0.6)	**(0.9)**	(0.4)
Total loans and acceptances	**$ 160.9**	$ 157.2	$ 150.4	$ 139.0	$ 144.3	**100.0%**	100.0%

(1) As at October 31.

Source: Annual Report, 2002

Scotia's central operational risk management unit implemented group-wide methodologies for managing operational risk. A centralized database of operational losses supported risk quantification. Under a self-assessment program, the management of all significant units identified their most significant risks and assessed the related control environment to ensure that those risks were effectively managed. The self-assessment program was deployed group-wide during 2003.

List Of References

1. www.hoovers.com
2. Scotia Bank Annual Report 2002.