CHAPTER II

The Canadian Perspective

Risk Management

Risk Management Office

- Optimises EDC's capacity and appetite, consistent with Corporate Business Plans and Objectives
- Assesses financial support for larger transactions recommended by business teams
- Formulates a policy framework and standards for all credit and insurance transactions
- Management of Corporate portfolio risk

- Risk Management Committee

  Review and approve credit and concentration risks

- Asset Liability Committee

  Membership includes President, Senior Vice Presidents of Operations and Treasury and Controller

  Manages Asset Liability exposures on a Corporate basis including:

  ⇒ Interest Rate, Foreign Exchange, Credit, Term Risks

- Reports to the Audit Committee of the Board of Directors

EDC Country Ratings

- Relating EDC Country Risk Ratings to probabilities of Default:

Once we determine EDC Country Risk Ratings for specific countries, we estimate expected annual probabilities of default for each EDC Country Risk Rating category. Probabilities are estimated using:

⇒ EDC Economic's Department and International Markets Department analysis

⇒ Moody's and Standard & Poor historical data

⇒ OECD Consensus/Bernie Union historical data

EDC Country Limits

- After associating each country of the world into one of the 8 EDC Country Risk Rating categories, we determine an EDC Country Limit based on:
  - Probability of default pursuant to risk category
  - Canadian exporter demand
  - Country's annual exports income
  - Country's annual foreign debt service obligations
  - Country's economic variables and trends
  - Country's default history
  - Country's availability to funds from IMF programmes

Risk Analysis at Origination

- Transaction teams perform the roles of:
  - Relationship Management
  - Business Development and Marketing
  - Transaction Identification, Negotiating , and Structuring
  - Risk Credit Analyses and Presenation
- Transaction team can authorise EDC exposure subject to Delegation of Authorities
- All transactions in excess of USD5 million must be endorsed by Risk Management Office and/or Risk Management Committee

Risk Analysis at Origination

- Transaction team performs a risk analysis very similar to analysis performed by commercial bank, investment bank or insurance company
- EDC assesses and prices risk very similarly

- Credit limit and credit term of counterparty exposure is determined pursuant to risk analysis
- Commercial conditions, covenants, and events of default negotiated
- Credit surveillance benchmarks identified

Post-Commitment Portfolio Management

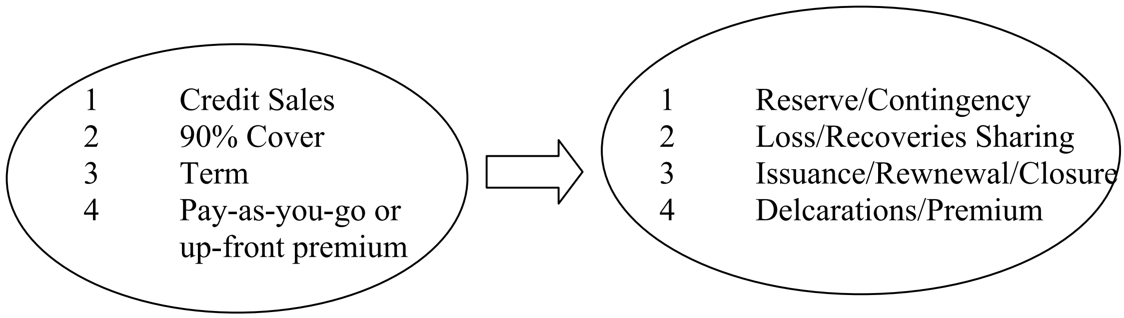
- Two Portfolio Management groups dedicated to monitoring EDC's book of assets and exposures after commitment:
    - Short term exposure
    - Long term exposure
- Monitor the credit-worthiness of all risk counterparties and country risk
- Monitor industries to which EDC has high concentration of assets or exposures
- Monitor loan covenant and conditions

Summary

- Speedy evolution of company structure in a high growth environment drives the controls needed
- Controls exist at the macro level and the micro level
- Inter linkages of all processes is growing as team focus evolves
- Controls on processes shaped by product and geared to proper financial management
- Financial Management takes place within the framework of the corporate Risk Management loop

Control Aspects & Issues

Control Considerations



ISSUE CONSIDERATION

Delegation of Authorities to EDC Employees

- Decision-making authorities based upon value are delegated to EDC employees to increase effectiveness of the service to the customer
- Delegation is based upon an employee’s position, experience and competency
- 12 levels of authorities

  Level 1 - Board of Directors

  Level 12 - no delegated authorities
- The Table of Authorities sets out the dollar limits for each function of the employee

Premium Payment Process

- Short Term

  Declaration form sent out, customised to each client

  Entered in short term insurance computer system
- Medium Term

  Premium paid in advance

  Payment recorded in medium term computer system

  Liability recorded

Claim Process

- Admissibility period based upon Risk Incurred
- Admissible Loss may be the full value declared, or less
- Verification of admissibility of the claim
    - Declarations
    - Period of cover
    - Other
- Payment decision by Claims Department
- Payment instructions to General Accounting
- Claims Accounting by Insurance Accounting

Claim Process Controls

- Operating Standards written for use by all members of the department
- Every claim is entered on database when received
- Database identifies Business Team of client which leads to the Claim Officer responsible
- Sophisticated computer reporting to control flow of work
- Computer System (CRS) controls approvals

<u>Claims and Recoveries System</u>

Claim Asset Control

- Paid claims carry an estimate of recovery in percentage terms
- Recovery estimates will change: Write Ups/Downs
- Asset carried on the books as long as recovery is determined to be cost effective
- If recovery prosects are not cost effective $\Rightarrow$ Write Off
- Decisions taken in Claims Dept, through CRS

Claim Recoveries Control

- All incoming cheques handled by General Accounting for recording and deposit
- Data entered on CRS by General Accounting including payee and references
- Amount allocated to claim by Claims Officer

- Effect is to adjust the asset Claims Paid

Claim Reporting

- CRS is a sub-system of the accounting system
- Cash transactions handled in the accounting system when triggered by CRS
- Information breakdown, eg claims by product, by program, etc, all drawn from CRS

Business Control Summary

- Controls evolve: increasing insured volumes driving process improvements
- System of checks & balances within processes to ensure appropriate behaviour
- Cross-checks between business process and accounting processes

The Future Structure and Controls

- As EDC Corporate structure evolves, processes, controls and accounting methods must adapt
- Technology will play an important role in the evolution of EDC
- Underwriting and Claim systems upgrades
- Looking at greater asset control for all of EDC's assets

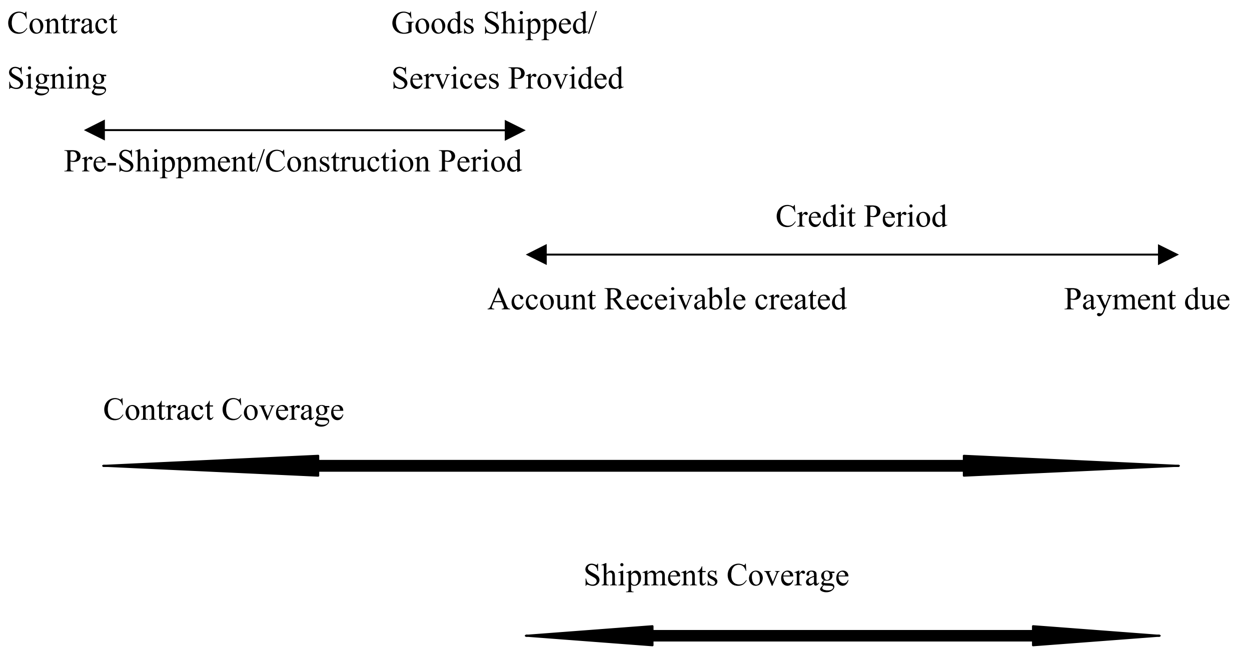
Management of Short Term Insurance

Short Term Insurance

Interface with other Systems

- Short Term Insurance pipeline
- Cash Receipts system
- Claims and Recoveries system
- General Ledger system
- Corporate Tables
- Credit Administration system

Short Term Insurance Contract



Credit Administration System

Analyse creditworthiness of buyer

- Credit reports
- Exporter's past experience
- Financial Statements

Identify level of risks related to the buyer. Also assess the buyer on a periodic basis to make sure that the level of risk remains acceptable to EDC.

Short Term Insurance

Application received

Data input into pipeline

Policy Offer sent to Exporter and data transferred to short term system

Posted to GL

Acceptance of Policy and receipt of processing fees *

Insurance Policy issued

Assessment of buyer's credit

Issuance of buyer credit approvals

Posted to GL

Receipt of monthly declaration with premium

*   Cheque for the processing fees is received by the Mailroom and input into the Cash Receipts system

Premiums

For short term insurance policies, premiums are taken into income at the commencement of coverage

Short Term Policy Example

EDC issues a short term Global Comprehensive policy. Coverage in the policy includes France. The processing fee is $150.

Goods are to be shipped to France as per following schedule:

	Amount	**Terms of payment**
January	$50,000	net 30 days
February	$66,000	net 30 days
June	$15,000	net 30 days

Policy Schedule

Country	Terms	Quoted Rate*
Canada	60 days	5.00
France	60 days	5.00
Germany	90 days	5.10
Japan	45 days	5.20

* per 100

Credit Approval

Buyer	Term	Amount
Abc Cie. France	30 days	Cdn$50,000

Continuing Credit Approval

Shipment of goods

January 15, 1997, the exporter ships Cdn $50,000 of goods to the Abc Cie. in France with terms of payment of 30 days.

By the 10th of February, EDC should receive from the exporter the declaration form toghether with a cheque for the premium due on the January shipments.

The declaration will be as follows:

Country	Term	Rate	Volume	Premium
France	30 days	5.00	50,000	2,500

Premium Accounting Entries

- GL Entries created upon issuance of policy and receipt of cheque processing fees

Bank	150	
Short term bank suspense		150

- Money applied to proper policy in short term system

Short term bank suspense	150	
Processing fees		150

Monthly Declaration

- Monthly declaration for previous month's shipment

Account receivable	2,500	
Premium income		2,500

- Recognition of provision expense at 50%

Provision expense	1,250	
Allowance for claims		1,250

- Receipt of premium and allocation to proper policy

Cash	2,500	
Short term bank suspense		2,500

Short term bank suspense	2,500	
Accounts receivable		2,500

Monthly Reconciliation

Short Term Insurance System		General Ledger
Statement of Account by policy	=	Accounts receivable by policy
Unallocated cash receipts	=	Suspense Account

General Expense

- Costs which vary indirectly with premiums such as administrative expenses are charged to expense as incurred
- Although indirect administrative expenses are not broken down by insurance program for Financial Statement presentation purposes, costs are allocated by program for internal program profitability reporting
- EDC recently installed "ABC", an Activity Based Costing module for this purpose

Activity Based Costing

What is ABC?

- ABC goes beyond the traditional cost view by responsibility centre by restating costs according to the way resources are consumed
- Provides adequate information to properly evaluate costs by customer and costs by product
- ABC resolves misallocations by using resource and activity drivers that reflect **unique consumption** patters and **link cause and effect** to the cost-assignment process
- ABC provides a closer match between costs and output

How does ABC Work

- ABC is a *two-stage* cost distribution system
  - Identify the activities that are performed within the organisation, and how these activities consume resources costs
  - Identify how these activities are consumed by each customer/product

Model

Resource costs

Resource drivers

Activities

Activity drivers

Customers/products

Example

Salaries, Rent, Information Systems

Head count, Square footage, # of personal computers

Underwriting Credit Analysis

# of Policy applications, # of credit requests

Products

Types of Activities

- There are three major types of activities:
  - Business Sustaining:
    Costs associated with a function required to stay in business and which cannot logically be associated with Costs Objectives

  - Cost Object Activity
    A cost object is an item that absorbs a cost and which can be reported on. Activities can be allocated to each cost object using activity drivers.

  - Reallocation Activity
    Some activities perfomed may be support activities. The cost associated with these may need to be spread over other departments and activities.

INSURANCE ACCOUNTING

AGENDA

Part 2

1. Accounting Principles and Practice
2. Premiums and Expenses
3. Reinsurance
4. Claims Management
5. Foreign Exchange
6. Contingent Liabilities
7. Case Studies

Accounting Principles and Practices

- Financial Statements are in accordance with GAAP (Generally Accepted Accounting Principles)
- Canadian Institute of Chartered Accountants provides standards for complying to GAAP
- Canadian Institute of Chartered Accountants is a member of the International Accounting Standards Committee
- International Accounting Standards and Canadian pronouncements correspond very closely and differences will be pointed out

Accounting Principles and Practice

- Integrity and objectivity of Financial Statements are Management's responsibility
- Financial Statements must be approved by EDC's Board of Directors
- The Audit Committee of the Board composed of Board Members, meet regularly to review Financial Statement and accounting policies
- The Corporation is audited by the Auditor General of Canada
- The Corporation must comply with limits as set out in the Financial Administration Act

Financial Reporting in the Insurance Industry

Insurance Financial Statements are specialized due to the following reasons:

- Insurance deals in the sale of services rather than the purchase/manufacture and sale of goods. The terminology used in insurance accounting reflects this difference. However, despite these differences, the accounting principles applied are the same.
- Most business enterprises are faced with the challenge to reduce risk. However, the insurance industry deals with the assumption of risk, which is then managed by spreading it among a large population. It is this element of risk that makes the financial reporting of insurers so specialized.

Financial Reporting

- For example:

- The major cost of the insurer (claims) can occur at any time, and sometimes not at all, during the period at risk for which the premium was received.
- Claims can be reported to the insurer long after the expiry of the period of cover.
- Unlike most businesses, the actual cost of the insurance product is not known at the time the product is sold. The cost, therefore, must be estimated and a liability set up. In addition developments such as inflation can affect a claim due to the timing differences between setting up of the claim estimate and the settlement date.

Financial Reporting

In view of these characteristics, problems can arise in the appropriate matching of revenue and expenses. The generally accepted approach is that.

- Premiums should be taken into the income statement evenly over the life of the policy,
- Claims should be recognized as a cost of operations and actuarial principles applied to determine appropriate reserves and
- Expenses should be charged to operations in a way to achieve a reasonable association with revenues.

Overview of Financial Statements

Balance Sheet

The Balance Sheet reflects the financial condition as at a point in time.
This statement reflects the type and value of assets, the nature and value of liabilities and the net worth of shareholders.

- **<u>Assets</u>**

  Most of the assets of an insurer will be in the form of **investments** as most of the cash a company receives from the insurance of policies is not needed until losses occur. Since losses may occur at any time, a company must maintain a fairly liquid position. The remaining assets consist of receivables connected with normal business operations, fixed assets, deferred expenses and recoverable insurance claims.

- **<u>Liabilities</u>**

  The two major liabilities of an insurance company are **Deferred Premiums** and the **Allowance for Claims**

  <u>Deferred Premiums (Unearned Premiums)(Premium Reserve)</u>

  Normally insurance premiums are received in advance, however, the liability only ends when either the policy expires or is cancelled. Since the premiums are received in advance the insurer has a continuing liability to return the unearned portion of the premium in the event of termination of the policy. It is, therefore, necessary for the insurer to carry this unearned portion as a liability.

  <u>Allowance for Claims (Unpaid Claims)(Claims Reserve)(Loss Reserve)</u>

  The insurer must show the liability for unpaid claims, which is intended to cover the amount necessary to settle claims which have been reported but not paid, incurred but not reported and also future claims not yet reported or incurred which will arise from the insurance policies in force.

Overview of Financial Statements

Income Statement

While the Balance Sheet is a snapshot of a company's financial condition at a particular date, the Income Statement reflects the underwriting and investment activities.

The major items of an insurer's Income Statement are:

1. Underwriting

Premiums and Fees Earned

Claims Expense (Claims Incurred)

Operating Expenses

Underwriting gain or loss

2. Investments

Investment Income

Investment Expenses

International Accounting and Reporting

- Historically, insurance accounting has varied significantly because of the different purposes for which insurers prepared annual accounts. In some countries more emphasis is placed on solvency of insurers and strength of Balance Sheet, whereas in other countries greater emphasis is placed on earnings.
- Situation has improved with European Community Directive which attempted to make difference transparent by requiring much more detail.
- The work of the International Accounting Standards Committee has improved the harmonization of regulations and accounting standards relating to the presentation of Financial Statements.
- For comparative purposes, however, it is still necessary to understand the available accounting and valuation options in each country.

CLAIMS

CLAIMS ALLOWANCE

The allowance for claims on insurance is based on an actuarial review of net loss experience and potential net losses and represents Management's best estimate of the net present value of the liability under existing policies.

CLAIMS ALLOWANCE

There are two steps in booking the expected losses to the allowance:

1. Expected loss ratios of net claims paid to premiums are calculated based on 10 year historical claims experience. Monthly charges using these rates are booked against premium income over the life of the policy and charged to the provision expense on the income statement and the claims allowance on the balance sheet.
2. At year end an actuarial valuation is calculated by EDC's actuary and the provision expense and claims allowance are adjusted if necessary.

EXPECTED LOSS RATIO AVERAGE 10 YEAR RUNOFF

Underwriting Year	Premiums	Net Claims Paid 1987 → 1996	Expense Ratio*
1987 ↓ 1996			
Totals			

- Net Claims Paid/Premiums

ACTUARIAL VALUATION OF THE CLAIMS ALLOWANCE

CLAIMS VALUATION

"The purpose of the claims valuation is to disclose the amount of policy and claim contingent liabilities in the Corporation's balance sheet that would make proper provision for future payments under the Corporation's **policies in force** as at December 31, 1996"

CLAIMS VALUATION

- The Valuation is comprised of:
- Provision for future claims
- Provision for incurred claims but not reported (IBNR)
- Claims reported but not yet paid (pending claims)

Claims valuation Components:		**Balance Sheet**
• Provision for future claims • Provision for incurred claims but not reported (IBNR) • Claims reported but not yet paid (pending claims)	=	• Deferred premiums • Allowance for claims

Estimation of Future Claims

- Frequency and severity model
- Frequency is estimated probability of occurrence of a claim in a single year on a single policy
- Severity is the estimated cost of the claim, expressed as a proportion of the maximum claim (ie net of recovery)
- How to estimate is dealt with later

DATA

- Extracted from EDC systems
    - -Credit Approval System, Short Term system, Medium Term system and Claims and Recoveries system
- Checks for
    - -Consistency
    - -Continuity
    - -Trend
    - -Reasonableness

General Methodology

1. Provision for Future Claims (ie Obligations Not Yet Incurred or Reported)

Policy obligations on policies in force on the valuation date that will arise due to events occurring after the valuation date are determined as the present value on the valuation date of future claim payouts net of recoveries.

Coverage Period and Discount Rate

- Coverage Period
    - -Medium and Long Term - Balance of policy term
    - -Short term - One Year
- Discount Rate - Government of Canada Medium Term Note

Modelling

- Monte Carlo method of simulation using frequency and severity
- Use 95% confidence level
- Average or mean = expected loss and difference between mean and reserve at 95% confidence level represents Provision for Adverse Deviation (PAD)

Concentration of Risk

- Size concentration

- Country concentration
- Industry concentration
- Project concentration
- Calculated policy liability must cover
  - -Expected losses (mean)
  - -Provision for adverse deviation (PAD)
- Policy liability should not cover
  - -Excess statistical fluctuation
  - -Catastrophe
  - -It is the role of capital and surplus to provide for these

<u>KEY ASSUMPTIONS (COMMERCIAL RISK)</u>

FREQUENCY

- Short term
  - -Future O/S credit approvals by buyer
  - -Expected declarations in following year under policies in force
  - -Expected loss frequency
    - >> Dun & Bradstreet (U.S.) default rates by industry
    - >> Non U.S. (from Economic Unit)
    - >> Short term economic outlook (from Economic Unit)
    - >> EDC experience
- Medium term
  - -Medium/long term EDC experience
  - -Medium term economic outlook

Severity

- Short Term
  - -Ratio of submitted claim amounts to maximum authorised credit
  - -Recovery rate average
  - -Coinsurance
  - -Deductibles
- Medium Term

-Medium/Long term EDC experience

-Medium term economic outlook

-For Foreign Investment insurance policies, economists in Political Risk Assessment department provide estimates of expected loss severities

KEY ASSUMPTIONS (POLITICAL RISK)

Frequency

- Based on risk in higher risk countries
- Aggregate risk for each program by country
  - -Assumption: if one defaults they all do

Severity

- Varies by program

2. Valuation of Incurred Claims

- Reported, not yet paid (pending)
  - -Inventory per Claims and Recoveries system
  - -Cost, net of recovery estimated claim by claim by EDC
- IBNR (Incurred But Not Reported)
  - -Short term
    - >> Determine based on past declarations and estimated lags
  - -Medium Term
    - >> No specific calculation
    - >> Any "suspected" in pending
- No reductions for expected recoveries on paid claims because those shown as asset on balance sheet

RESERVE SUMMARY FOR SHORT TERM INSURANCE

<u>Assumptions (Commercial)</u>	**<u>96/12/31</u>**
1. Frequency	1%
2. Severity	
(a)% of authorised credit	50%
(b)% recovered	50%
(c) Severity	
(a) x {1.00-(b)}	25%

Results ($M)	
(a) Mean Loss	50
(b) PAD (@95%)	25
(c) Total Provision = (a) + (b)	75

CLAIMS ACCOUNTING ENTRIES

Example

1) On October 1, EDC pays a claim in the amount of $50,000
2) At the end of October, the Claims Officer estimates $30,000 of the $50,000 paid is recoverable
3) In November, the Claims Officer incurs $2,000 in travel expenses in attempting recovery of monies owned
4) EDC recovers $50,000 in December

BALANCE SHEET (000'S) AS AT DEC 31

ASSETS

Other Assets	
Recoverable Insurance Claims	
Opening Balance	0
Claims Paid	50
Claims Recovered	(50)
Write ups/downs	0
Total Recoverable Insurance Claims	0

LIABILITIES

Other Liabilities and Deferred Revenues	
Allowance for Claims	
Opening Balance	0
Provision for Claims	60
Claims Recovery Expenses	(2)
Re-evaluation of Recoverable Claims	0
Allowance for Claims at End of Period	58

CLAIMS ACCOUNTING ENTRIES

1) Monthly provision expense booking (year to date)

Provision expense	60,000	
Allowance for claims		60,000

2) Claim Payment

Claims suspense account	50,000	
Bank		50,000

(claim payment)

3) Allocation of claim payment

Claims paid	50,000	
Claims suspense account		50,000

4) Anticipated recovery

Allowance for claims	20,000	
Recoverable insurance claims write-down		20,000

(Claims department estimates anticipated recovery is 60% of amount paid. Insurance accounting adjusts recoverable insurance claims account accordingly.)

5) Claims incurs travel expenses in attempting recovery

Allowance for claims	2,000	
Bank		2,000

6) Claim payment recovered

Bank	50,000	
Claims recovered		50,000
(to record recovery)		
Recoverable insurance claims write-up	20,000	
Allowance for claims		20,000
(to reverse write-down)		

CLAIMS RECONCILIATION

Claims Suspense		Bank		Claims Paid		Write up/down Recoverable Insurance Claims	
50,000(2)			50,000(2)	50,000(3)			20,000)4)
	50,000(3)		2,000(5)				
		50,000(6)				20,000(6)	

Allowance for Claims		Claims Recovered		Provision Expense	
	60,000(1)		50,000(6)	60,000(1)	
20,000(4)					
2,000(5)					
	20,000(6)				

CONSOLIDATED BALANCE SHEET AS AT DECEMBER 31, 1996

ASSETS	($Millions)
Cash and Investments	
Cash and marketable securities	1,037
Investments	407
Accrued Interest	15
	1,459
Loan Receivable	
Net loans receivable	8,048
Accrued interest and fees	140
	8,188
Other	
Recoverable insurance claims	25
Other	34
	59
	9,706

CONSOLIDATED BALANCE SHEET AS AT DECEMBER 31, 1996

LIABILITIES	($millions)
Loans Payable	7,735
Loans Payable	94
	7,829
Other Liabilities and Deferred Revenues	
Accounts payable	80
Deferred insurance premiums	11
Allowance for claims and guarantees	205
Deferred loan revenues and other credits	164
	460
Shareholder's Equity	
Share capital	983
Retained earnings	434
	1,417
	9,706

CAPITALIZATION & ALLOWANCES

	1992	1993	1994	1995	1996
S/H Equity:					
Capital	788	788	813	851	983
R/E	91	107	278	322	434
Capitalisation	879	895	1,091	1,172	1,417
Allowances:					
Loans	609	751	935	1,256	1,458
Insurance	98	111	149	181	205
Treasury	6	13	13	20	20
Allowances	713	875	1,097	1,457	1,683
Capitalisation & Allowances	1,592	1,770	2,188	2,630	3100
Non-accrued capitalised Interest (NACI)	828	843	929	927	998
Total Capitalisation & Allowances and NACI	2,420	2,613	3,117	3,557	4,098
% increase from prior year		8.0%	19.3%	14.1%	15.2%

FOREIGN EXCHANGE

- All ending monetary balances on the Balance Sheet are translated to Canadian dollars calculated at month end conversion rates.
- All monetary income and expense amounts for the period on the Income Statement are calculated at month average rates
- Foreign Exchange gains and losses arise when there is a difference between the exchange rate used on Financial Statement translation and the foreign exchange rate in effect on the transaction date (or previous month end close exchange rate for opening balances carried forward)
- Foreign exchange gains/losses should be taken into income as incurred to remove monthly distortions, EDC books gains and losses evenly over the year

FOREIGN EXCHANGE RISK

- Foreign exchange risk exists where there is a mismatch between assets and liabilities in any currency
- This risk should be measured, monitored and controlled
- Treasury Strategy Guidelines provide acceptable exposures

Contingent Liabilities

- Contingent liabilities are an off-balance sheet item and are disclosed in the Notes to the Financial Statements.

- The corporation is subject to a limit imposed by the Export Development Act on its contingent liability programs. The Act specifies that the corporation's contingent liabilities in respect of the principal amounts owing under all outstanding arrangements shall at no time exceed $ 15 billion, an amount equal to ten times the authorised capital of the Corporation. As at December 31, 1996, the position against this limit is $8.9billion (1995 - $7.9 billion).

- The contingent liability is calculated as the insured volume x the cover rate (normally 90%) minus any claim payments.

- The contingent liability remains in force until the claims expiry date is reached.

S.T. Contingent Liability – Top 5 Countries

1. Iran
2. Mexico
3. Brazil
4. Canada
5. U.S.

Short – term contingent Liability 1996 - $5,081 million

M.T. Contingent Liability – Top 5 Countries

United Kingdom

Argentina

Turkey

Colombia

Canada

1996 Medium – term contingent Liability $2,351 million