

# INVESTMENT MANAGEMENT IMPLICATIONS OF STRUCTURAL CHANGE IN THE CANADIAN “FIXED”-INCOME MARKET

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## AGENDA

- Structural Change & Time-varying Investment Opportunity Set
- Other Impacts of Declining Government Presence
- Structural Change Impact:
  - Passive Investment Management (PIM)
  - Active Investment Management (AIM)
- Historical Returns & Correlation Structure
- Some Concluding Remarks

## Structural Change & Time-varying Investment Opportunity Set

- Changing Relative Weights of Governments, Corporates & Others
- Financial Innovation
- Erosion in Veracity of Corporate & Credit-rating Information Flows
- Electronic Trading Platforms

## Changing Relative Weights ...

- Cumulative all governments-versus-corporate net security issues, 1997-2001
  - Net new bond issues, \$30.8 B versus \$ 60.7B
  - Net new bill issues, \$-40.7 B versus \$76.7 B
- Shift to Federal budgetary surplus in FY1997-98
- Table Extract

## Federal government debt, 1997-2001 (\$ B)

	1997	1998	1999	2000	2001
Marketable securities, consisting of:	441	434	429	427	418
Marketable bonds	295	309	315	316	317
Treasury bills	135	112	97	100	89
Non-marketable securities, consisting of:	151	151	155	159	159
Canada Savings Bonds	33	30	28	27	26
NET FEDERAL DEBT	588	582	574	562	545

## Changing Relative Weights ...: Implications for Canadian Bond Market Portfolio

- Increase expected return with higher credit risk
- Probably increase volatility; for unchanged TTM, depends on trade-off between spread volatility & duration shift
- Increase diversification potential, since correlation across lower than within credit-rating category

### Changing Relative Weights ...

- Decrease overall diversification potential due to higher  $\rho$  (lower grade bonds, equity)
- Increase difficulty of being fully diversified
- Decrease liquidity & increase trade cost of bond investing
- Increase need for credit analysis with increased credit risk of average fixed-income investment

### Financial Innovation

- Many new or rapidly-emerging fixed-income sub-classes
  - Mortgage-backed securities (MBS)
  - Asset-backed securities (ABS)
- Improves ex ante risk-return efficient frontier
- Embody varying degrees of “credit” risk

## Erosion in Veracity of Corporate & Credit-rating Information Flows

- Increased credit risk premia
- Bond rater overreaction

## Declining Government Presence: Other Impacts

- Provision of liquidity & safe havens
- Benchmarking
  - Committed to bulk up supply of benchmark issues
  - Present target of \$9 to 12 billion at key maturity points

## Structural Change Impact: Passive Investment Management (PIM)

- Previous trend towards indexing
  - Reasons
    - Little incentive for active management when market portfolio has low credit & liquidity risks
    - Efficient market theory & evidence
  - Partial replication to minimize tracking error (TE), consisting of:
    - Transaction costs
    - Composition differences, index & tracking portfolio
    - Trade cost differences, index providers use mid-spreads, indexers pay liquidity premia given by effective half-spread

## Structural Change Impact: PIM ...

- Governments are homogeneous re: credit risk & heterogeneous re: durations
- Corporates are heterogeneous re: credit risk & durations
  - Market portfolio not appropriate benchmark for more institutional investors (asset/liability mgmt; missing asset sub-classes; too high credit risk)
  - Passive portfolio has higher risk (credit & liquidity)
  - Tracking more difficult with more frequent index changes, & TE increases

## Structural Change Impact: Active Investment Management (AIM)

- Choice of Active Strategy
  - Market portfolio with low credit risk, high & volatile (& declining) interest rates & relatively cheap hedging cost
    - Rate (curve) anticipation strategies
    - Managers add value to passive strategy
  - Market portfolio with higher credit risk, low level & volatility of interest rates, & more expensive hedging
    - New strategy of successfully anticipating changes in (option-adjusted) yield spreads among bond sectors/ individual bonds
    - Corporates & new fixed-income investments contain various embedded options

## Structural Change Impact: AIM ...

- Default swaps
  - Useful tools for credit risk management & control if used appropriately
  - Effective leading indicator of future credit deterioration or default
  - WorldCom, April 30, 2002:
    - S&P BBB rating
    - Bonds trading at < 50 cents on the dollar

## Structural Change Impact: AIM ...

- Role of Credit Analysis
  - Important even for passive management
  - Credit quality rating movement correlated across issuers
  - Probability of migration for AAA corporate is 13%, 24%, 34%, and 53% over tracking horizons of 1, 2, 3 & 5 years
  - Bond return or credit spread consists of premia for tax differences, credit spread change & default jump risk
  - Importance of bond covenant analysis

## Historical Returns & Correlation Structure

TR Univ Index	1987-1991	1992-1996	1997-2001	1987-2001
SC Muni	12.1%	12.1%	7.6 %	10.6 %
SC Prov	11.3%	11.6%	7.5 %	10.1 %
SC Canada	10.8%	10.5%	6.9 %	9.4 %
SC All Gov	11.0%	10.9%	7.1 %	9.6 %
SC Corp AA	11.6%	11.5%	7.3 %	10.1 %
SC Corp A	11.7%	12.0%	7.3 %	10.3 %
SC Corp BBB	11.5%	14.0%	6.4 %	10.6 %
SC All Corp	11.6%	11.8%	7.3 %	10.2 %
SC Overall	11.1%	11.0%	7.1 %	9.7 %
TSE300	6.4%	13.9%	7.0 %	9.0 %

## Historical Returns ...

- All 9 SC universe TR indices outperformed TSE300 over 15-year period
- Fairly robust for three 5-year subperiods
- Average annual spreads of Corp AA, A & BBB over Canadas of 70, 90 & 120 bps
- Most SC  $\rho$  of at least 0.9; 4 exceptions with Corp BBB
- SC with TSE300  $\rho$  range: 0.237, Canadas; ...; 0.440, Corp BBB

## Some Concluding Remarks

- Tilt to Corporates & Others from Governments
- Bond indexing – more credit risk but greater opportunities for diversification & enhanced returns
- Bond investing
  - Some active management needed
  - Active paradigm shift to more focused credit management