



What Is PC-Bond?

Database - 19,000 issues

Live - Real Time Pricing

BondMan - Portfolio Analytics
Forecasting
Canadian Bond &
U.S. Treasury Indices
Volumes and Trade
Analysis
Blended Indices
Comparison Reporting

BondData - Price, Yield and Volume
Charting
Technical Analysis

BondCalc - Trade Analysis
Cashflow Analysis

PC-Bond is a sophisticated analytical software system for trading and managing fixed income securities. PC-Bond enables you to evaluate the market and identify opportunities using sophisticated, easy-to-use programs that share an extensive database of issue information and historical pricing (BondMan, BondCalc, BondData & Live).

PC-Bond is available as both a standalone application or networked, with multiple users accessing a single database and set of programs. PC-Bond operates in XP, 2010, and Office 2003 and up.

PC-Bond can instantly turn market data into investment information to assist you in your investment decisions – a complete software system to meet all your analysis needs.

PC-Bond General Information:

PC-Bond, TSX Inc
130 King Street West, 3rd Floor
Exchange Tower
TORONTO Ontario M5X 1J2

(416) 947-4772
Email: pcbond@tmx.com

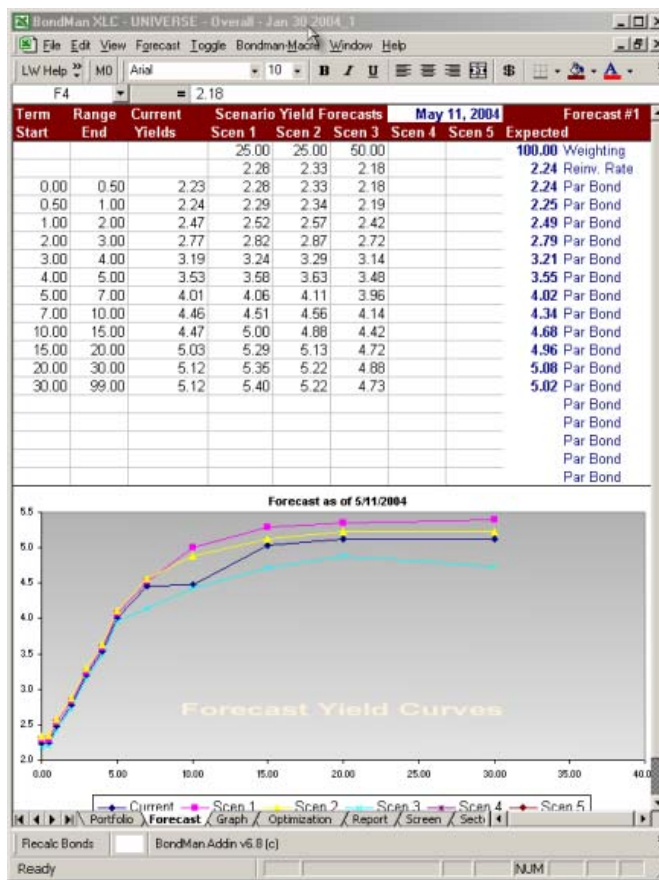
BondMan TrX (Excel-based)

BondMan TrX incorporates Portfolio Management into your own Excel environment, maintaining the same level of database interface as the PC-Bond suite of products. Clients can perform Portfolio Valuations, Sector Analysis, and utilize extensive Key Columns to minimize user calculations. BondMan TrX now provides detailed daily Volume and Trade Analysis on all issues. Also backwards compatibility with older versions provides the user with a smooth transition period for any previous portfolio creation/maintenance routines.

Issue Name	Coupon	Maturity Date	Trade Bench Spr 2 months (Avg)	Trade Yield 2 months (Avg)	Turnover 2 months	Trade Volume 2 months (Total)
Canada	3.75	Jun 1, 2010	0.01	2.717	24.0220	92,805,373,000
Canada	3.75	Jun 1, 2012	-0.01	3.047	21.2367	149,780,290,998
Canada	4.25	Dec 1, 2009	0.02	2.734	13.9099	94,261,615,000
Canada	4.00	Jun 1, 2017	0.00	3.578	10.0573	94,146,316,000
Canada	5.25	Jun 1, 2013	0.09	3.140	4.8752	38,474,731,999
Canada	3.50	Jun 1, 2013	0.01	3.151	3.9979	12,041,739,000
Canada	4.00	Jun 1, 2016	-0.12	3.458	3.5429	33,359,813,998
Canada	3.75	Jun 1, 2009	0.00	2.727	3.2666	13,982,732,000
Canada	4.00	Sep 1, 2010	0.05	2.761	3.1396	20,080,542,000
Canada	4.25	Sep 1, 2009	0.00	2.737	2.9131	21,272,825,000
Canada	5.00	Jun 1, 2037	0.00	4.065	2.8775	30,376,877,995
Canada	8.00	Jun 1, 2023	-0.14	3.937	2.6657	14,099,946,500
Canada	3.75	Sep 1, 2011	-0.06	2.983	2.6139	20,782,948,000
Canada Housing Trust	3.60	Jun 15, 2013	0.52	3.678	2.0839	18,755,100,000
Canada	4.25	Jun 1, 2018	0.12	3.695	1.9491	13,269,035,000
Canada	5.50	Jun 1, 2009	0.00	2.724	1.7276	6,530,444,000
Canada Housing Trust	4.65	Sep 15, 2009	0.24	2.977	1.6693	14,331,282,000

FUNCTIONALITY INCLUDES:

- ⇒ **Copy/Paste** into BondMan for easy portfolio analysis (CUSIP/position)
- ⇒ Save any Bondman Report Output to **Excel**
- ⇒ **Automate** daily portfolio-creation process
- ⇒ Access and price **multiple portfolios**
- ⇒ **Enhanced graphics** capability, use of some Excel formulas
- ⇒ **Edit/Undo**, and spreadsheet manipulation tools (Report views, right mouse-click options)
- ⇒ **Additional Tabs** designed to make portfolio analysis easier & customized.



BondMan TrX

Canadian & U.S. Fixed Income Indices

Users have the ability to retrieve all securities and weights for each security that comprise the Canadian and U.S. Treasury Indices (and all applicable sub-indices) as a Portfolio.

Indices are updated daily as part of the overnight download, and are available historically for Canadian Fixed Income Indices from January 1994, and U.S. Treasury Indices from 1998. By default, par value weights are loaded into the existing Portfolio layout, and priced as of the selected date, to easily generate market-value weights.

- ⇒ Users can replicate the published Index characteristics, as well as generate custom breakdowns of the Indices, which is useful for client portfolio comparisons.
- ⇒ Using available key columns, users can analyze/breakdown the Index by Industry Sector, Group, Sub-Group, Term Bucket, Duration Buckets (to name a few examples).
- ⇒ Using Amounts Outstanding, projected Cash Flow reports or graphs can be generated.
- ⇒ The various BondMan modules used for enhanced portfolio analysis (Forecast, Graph, Summary, etc) can be applied to the Index as if it is a managed portfolio.

Refer to [BondMan Comparison](#) for more information on applications of the Indices module.

Select Index To Load

Indices Available For **Dec 31,2010**

- DOMESTIC BOND INDICES
- DOMESTIC LIQUID UNIVERSE -DLUX
- FOREIGN & DOMESTIC C\$ BOND IND
- HIGH YIELD BOND INDICES
- LONG 20+ BOND INDICES
- MAPLE BOND INDICES
- MORTGAGE BOND INDICES

Market: Canada

Sub-Indices Available For DOMESTIC BOND INDICES

- UNIVERSE - Securitization
- UNIVERSE - Real Estate
- UNIVERSE - Quebec
- UNIVERSE - Provincials
- UNIVERSE - Overall
- UNIVERSE - Non-Agency
- UNIVERSE - Municipals
- UNIVERSE - Infrastructure
- UNIVERSE - Industrial
- UNIVERSE - Financial
- UNIVERSE - Federal
- UNIVERSE - Energy
- UNIVERSE - Communication
- UNIVERSE - BBB
- UNIVERSE - All Governments
- UNIVERSE - All Corporates
- UNIVERSE - Agency
- UNIVERSE - AA

Use Last Date

OR

Enter / Select Date From Database:

Dec 31,2010 Apply

Weighting To Base On

Adj Amt Outstanding

Par Value

OK Cancel Help



U.S. Treasury Indices are now available.

BondMan TrX

Blended Indices Module

This feature first released in October 2003, provides users with the ability to construct their own Custom Index using a “blend” of sub-indices that comprise any of the Canadian Fixed Income Indices ,or U.S. Treasury Indices.

Specify Blended Index To Load

Select Index Date: Apr 2, 2008 Apply

Index to use: DOMESTIC BOND INDICES (for Apr 2, 2008)

Market: Canada Australia All

derivatives DEX CANADA

Allocation of Sub-Indices

Assign Weight to calculate Index Market Value Percentage Info Help

Adj Amt Outstanding multiplied by Weight Info Load Weights

Weight	Sub-Index	MKT Value %
	UNIVERSE - Securitization	
	UNIVERSE - Real Estate	
	UNIVERSE - Quebec	
	UNIVERSE - Provincials	
	UNIVERSE - Overall	
	UNIVERSE - Non-Agency	
	UNIVERSE - Municipals	
	UNIVERSE - Infrastructure	
	UNIVERSE - Industrial	
	UNIVERSE - Financial	
	UNIVERSE - Federal	

MKT Value % of Selected Sub-Indices: 100.00 %

OPTIONAL - Gross Market Value of Blended Index To:

Buttons: Help, Load Weights, Save Weights, OK, Cancel

BondMan provides two methods for constructing a Blended Index:

- 1) **Assign Weight to calculate Index Market Value Percentage** – using this option, users construct a model Index using target market value % weights. Example: 50% Mid-Term + 50% Short-Term = 100% Blended Index (i.e. build an index using a target weighting)
- 2) **Adj Amt Outstanding multiplied by Weight** – this option will load proportionate sub-indices, based on user selection. Example: All Corporates except BBB (i.e. build an index from the “ground-up”)

As with any BondMan module, the creation of daily “Blended Index” can be automated on daily basis using a recorded BondMan-Macro.



BondMan TrX - INDEX COMPARISONS

This Comparison feature allows users to compare various portfolios against any of the Canadian Fixed Income or U.S. Treasury Bond Indices (or any sub-indices), and provides a list of available reports. In addition to a standard library of comparison reports, it provides Custom Views of user-defined Sorting, and an extensive list of available fields.

Set Comparison Report Options

Industry Reports - Mkt Value % Weights

By Industry Sector (Custom) Show Delta
 Alternate Key Column

By Industry Group (Custom) Show Delta
 Alternate Key Column

By Industry Subgroup (Custom) Show Delta
 Alternate Key Column

Maturity Code Reports

Mkt Value % Weights Show Delta

Duration By Show Delta

Convexity By Show Delta

Key Rate Report Show Delta

Custom Report Use Other Sort Orders Show Delta

1st Sort Order Show Total

2nd Sort Order Show Total

3rd Sort Order Show Total

4th Sort Order Show Total

0 cols selected.

of Portfolios: 1 # of Columns in use: 10

Buttons: Help, New, Generate, Cancel, Summarize

See Next Page for list of available Key Columns

⇒ By default, the program will include any open PF6 file in the Comparison Report

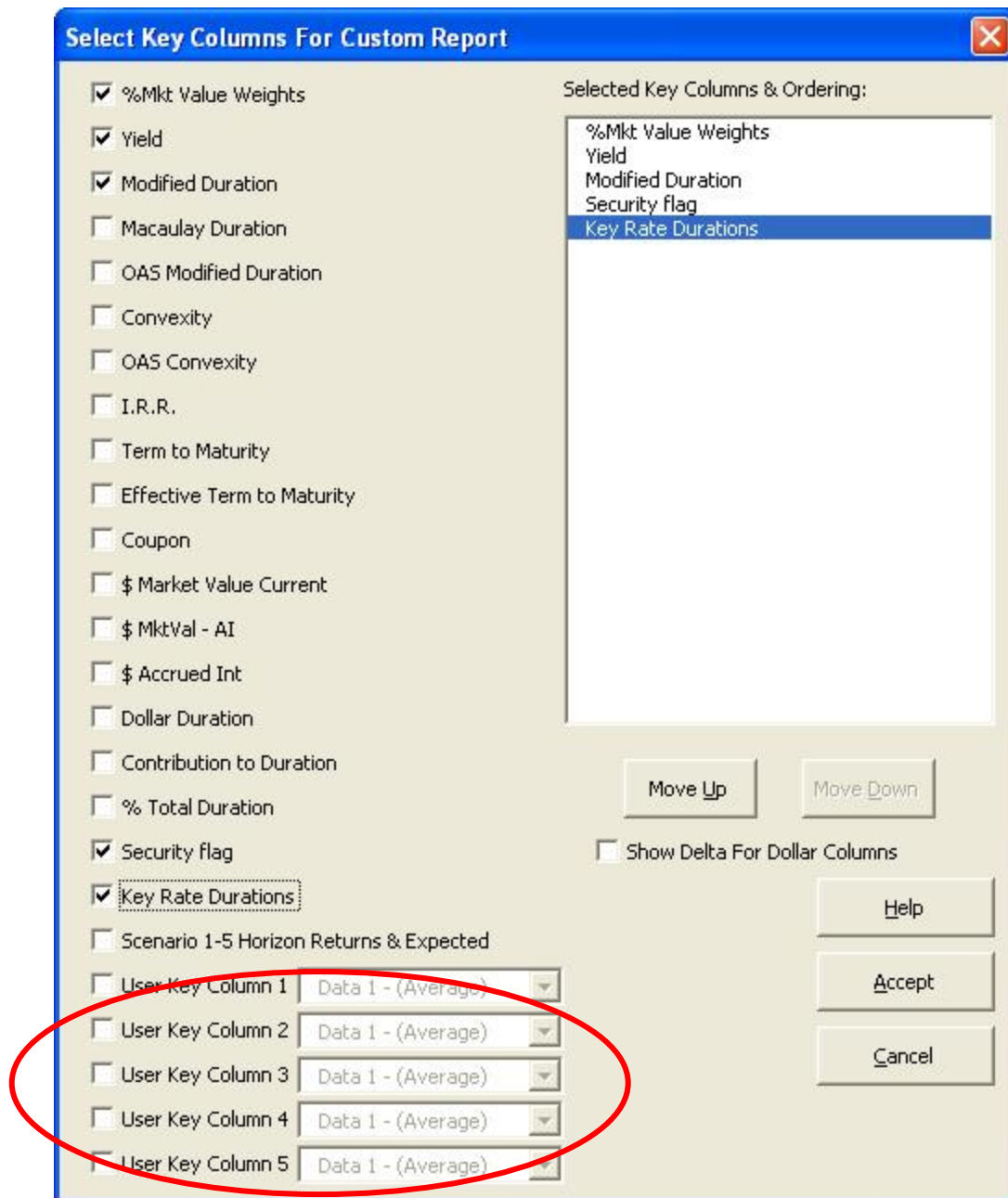
As with any BondMan module, the creation of custom "Comparison Report" can be automated on daily basis using a recorded BondMan-Macro.

BondMan TRX - INDEX COMPARISONS

In addition to a library of standard Comparison Reports (Maturity, Industry comparisons, for example), users can pick/choose their own portfolio characteristics to measure against the Index.

This "Index" does not have to be the Scotia Capital Universe Bond Index specifically - it can be any other Portfolio (PF6) file, for example a Blended Index, a Scotia Capital Sub-Index, or other portfolios managed by the user.

The screenshot below lists all available Key Columns that can be incorporated into the Custom Comparison Report.



In addition to pre-calculated Key Columns, there are 5 available "User" key columns, which can contain user's own derived value

BondMan TrX (Comparison)

Sample Screenshots



Mkt Val % By Industry Group (Custom)

Price Date	Jul 3,2002		
Portfolio	Index_LastDate	Managed Portfolios	
Market Value	962,050,763	933,413,507	
	Index	Port	Delta
	Mkt Val %	Mkt Val %	Mkt Val %
Federal	50.58	50.73	0.15
Provincial	22.79	23.55	0.76
Municipal	1.17	1.67	0.50
Communicati	2.63	3.22	0.59
Energy	5.51	4.12	(1.39)
Financial	9.12	9.00	(0.12)
Industrial	2.47	1.21	(1.26)
Infrastructure	2.88	4.30	1.42
Real Estate	0.22	0.00	(0.22)
Securitization	2.63	2.19	(0.44)
TOTAL	100.00	100.00	-



Mkt Val % By Mat Code

Price Date	Jul 3,2002		
Portfolio	Index_LastDate	Managed Portfolios	
Market Value	962,050,763	933,413,507	
	Index	Port	Delta
	Mkt Val %	Mkt Val %	Mkt Val %
a) 0-1	0.07	0.00	(0.07)
b) 1-2	13.65	15.39	1.74
c) 2-3	9.36	9.00	(0.36)
d) 3-5	21.21	24.79	3.58
e) 5-7	13.43	8.68	(4.75)
f) 7-10	17.72	18.11	0.39
g) 10-15	4.11	3.98	(0.13)
h) 15-20	2.84	0.62	(2.22)
i) 20-25	9.01	8.61	(0.40)
j) 25+	8.59	10.82	2.23
TOTAL	100.00	100.00	-



Custom Report: Industry Sector, Industry Group, Industry SubGroup

Price Date	Jul 3,2002						
Portfolio	index_lastdate	Managed Portfolios					
Market Value	962,050,763	932,848,427					
	Index	Index	Index	Port	Delta	Port	Delta
	Yield 20020703	Modified Duration	Contributi Duration	Yield 20020703	% Hold Current	Modified Duration	Modified Duration
Government							
Federal							
Non-Agency	4.80	5.59	2.5420	4.75	2.49	5.68	0.09
Agency	4.88	4.25	0.2119	4.65	(2.24)	3.49	(0.76)
MBS	0.00	0.00	0.0000	0.00	-	0.0000	-
Supranational	5.31	5.72	0.0060	0.00	(0.10)	0.00	(5.72)
Cash	0.00	0.00	0.0000	0.00	-	0.00	-
	4.80	5.46	2.7600	4.74	0.15	5.56	0.10
Provincial							
British Columbia	5.47	6.89	0.1866	5.92	1.23	10.25	3.36
Alberta	5.01	3.49	0.0260	0.00	(0.74)	0.00	(3.49)
Saskatchewan	5.34	6.38	0.0618	5.19	0.76	4.87	(1.51)
Manitoba	5.19	5.87	0.0696	4.37	0.50	2.70	(3.17)
Ontario	5.37	7.12	0.5773	5.36	(1.54)	6.30	(0.82)
Quebec	5.44	7.00	0.3949	5.28	(0.90)	5.61	(1.39)
New Brunswick	5.45	6.46	0.0892	5.31	0.97	6.29	(0.17)
Nova Scotia	5.44	6.37	0.0701	5.38	1.42	6.36	(0.01)
Prince Edward Isla	5.62	7.39	0.0120	0.00	(0.16)	0.00	(7.39)
Newfoundland	5.77	8.50	0.0670	0.00	(0.79)	0.00	(8.50)

BondMan TrX- Overview

INTRODUCTION

Each BondMan session starts with a default Worksheet layout ("Classic") – the labeled tabs across the bottom represent the various modules available in BondMan for complete fixed income portfolio analytics.

Menu items for each worksheet (or "module") are under the menu item of the same name (beside the "View" menu item) and contain all available commands. For example, to access the available commands under the "Portfolio" tab, click on "Portfolio" at the top of the window and a drop-down list of menu items will appear.

For first-time users of BondMan TRX, a new Customizable Toolbar is available in the program, so commonly used menu items can be placed on the toolbar for ease of use and convenient access.

PORTFOLIO

This is the main worksheet where the securities & holdings of one portfolio are listed (one security per row).

The program assumes each security listed in the active Portfolio comprise one portfolio. This is considered the main worksheet in BondMan and each additional module (Forecast, Graph, etc) uses the data provided by the Portfolio worksheet to generate results/analysis. When a list of securities has been priced and Current Holdings data populated, the program will generate a total Market Value based on these securities.

Custom views, additional, portfolio pricing, default BondMan settings are among some of the available functions in the Portfolio worksheet.

BondMan TRX provides a Copy/Paste functionality from other Windows applications (example: paste valid CUSIPs into the CUSIP key column – or alternatively paste valid ISIN's into the ISIN key column - and the system will perform a reverse-lookup; matching securities will be loaded into active portfolio).

Important: If a portfolio has not yet been priced, many of the fields in this worksheet will be blank.

FORECAST

This module generates forecasted yields and prices (at some horizon date) for each individual security in the current portfolios. BondMan uses these individual yield forecasts to calculate total returns for each security to the specified horizon date.

Current Yield Curves (Canada, US, for example) are available in this module, but this sheet requires user input for up to five different Yield Curve scenarios (including possible changes in Sector or Coupon Spreads and Exchange Rate forecasts, if applicable).

Users have the facility to view the current Yield Curve in chart form, as well as the 5 forecast yield curves. In addition to this graphical interface, points on the Yield Curve can be used to change the underlying forecast numbers (i.e. User can re-shape the forecast yield curve in the graph which will change the values in the forecast)

The resulting forecasted price, yield & total return for each security is displayed in the Portfolio Worksheet, with the overall Portfolio results available in the Summary worksheet. If the underlying Portfolio changes, the Forecast will be re-calculated using the new list of securities.

BondMan TRX

GRAPH

The Graph worksheet will generate various types of graphs the your screen, to a printer, or saved as a graphic image file (BondMan TRX also allows use of the Windows clipboard to Copy/Paste graph images into other applications). BondMan is capable of generating six different types of graphs, including Scenario Yield, Cashflow, Histogram, Bar, X-Y (Scatter Plot or Line), Pie and Term Structure (new).

Up to 4 charts can be displayed in this worksheet, and custom settings such as Chart Layout, Background, Font Settings can all be saved as part of this new Graph Settings File (GRF).

OPTIMIZATION

The Optimization module chooses from the securities in the active Portfolio worksheet to construct an optimal portfolio in the sense that it best satisfies the user's chosen objective (such as maximizing expected returns). The optimal portfolio is constructed within defined constraints, such as statutory sectoral constraints, credit quality, duration, or scenario constraints (e.g. a minimum return under a bearish rate scenario).

The results of the optimization select an "optimal" position for each security in the active portfolio worksheet based on the criteria defined in the Optimization module. The recommended par values are displayed in the Portfolio under the Optimal Holdings key column. Market Values, Forecasts, Graphs can all be generated for this new Optimal Portfolio.

REPORT

The Reporting facility in BondMan TRX allows users to prepare and save customized reports for Portfolios. Worksheet Reports provide a listing of each security in the current portfolio, and displays selected columns of data, using custom sorting & summaries.

Grouping Summary Reports, Sector, Super Sector and Cashflow Reports are some of the available choices in the Report module. Reports can be output to various flat file formats as well as formal Excel XLS format.

SECTOR

The contents of the Sector worksheet are automatically generated based on the Sector Key Column in the active Portfolio worksheet. This text column is considered the primary sort order for securities listed in the active portfolio. Users can automatically retrieve Sector Codes for each security from the PCBond Database, or define their own classifications for each security.

The Sector worksheet displays the Sector Code and the Holdings of each as a percent of the current Portfolio. The contents of this worksheet are referenced by the Optimization module – minimum and maximum constraints per Sector are defined here and the results of the Optimization can also be viewed in this worksheet.

SUMMARY

In this new version of the program, the Summary worksheet provides users with enhanced on-screen analytics, including total market value, percent weights of each sector, average Yield, Term, Duration (Macaulay or Modified). This worksheet is customizable and preferences can be saved in the new Summary File format (SUM).

The contents of the Summary worksheet are automatically generated using the securities in the current priced Portfolio. The Scenario Returns for each Sector in the portfolio, which are also displayed in this sheet, are calculated using the data in the active Forecast worksheet.

PC-Bond* - Fixed Income Database

The PC-Bond* is an integral part of the PC-Bond System and is accessed seamlessly through BondData, Bondman, Bondcalc and SCMLive! It is comprised of approximately **19,000** data series, with time series as far back as 1945. The Database has evolved into the most accurate and complete source for the Canadian fixed income market. All Canadian bonds previous to October 1, 2007 were priced directly by Scotia Capital Inc. where issues are now priced by a multi-dealer pricing model for which eleven (11) leading Canadian Dealers participate. U.S. Treasury Data is provided by RBC Capital Markets.

Daily and intraday bond prices, as well as the Canadian Fixed Income and U.S. Treasury Indices provide you with access to a complete data set for daily market valuation and performance measurement.

Bid, ask and mid-market levels for prices and yields are updated every business day for Canadian instruments.

Canadian Market

- Canadian Government Bonds
- Provincial, Corporate & Municipal bonds
- Money Market securities
- Mortgage-Backed Securities (all pools)
- asset-backed securities (ABS)
- FRN's
- Coupons, Residuals and Packages
- CMBS (including IO's)
- Yield Curves - Par, Spot, Coupon, Residual, and Benchmark Curves

U.S. Market

- U.S. Treasuries, notes and bonds
- U.S. money market securities
- Treasury note futures
- US\$ pay Canadas, provincials and corporates (Yankees)
- spot rate and benchmark Treasury curves

Euro Market

- CDN\$ and US\$ Euro Issues
- selected DM, ECU, Sterling, Yen, and AUS\$ issues
- International Yield Curves
- Money Market Securities

Additional Debt Markets

- Gilts, JGBs, Bunds, Globals
- Emerging Global/Euro Markets
- Emerging Local Debt Markets

U.S. Treasury Bond Indices

- RBC TRUST Indices (Unstripped)
- RBC TRUST Indices (Stripped)

Canadian Fixed Income Indices

- Universe Bond Indices – C\$ (incl. Short, Mid and Long Term Indices)
- Maple Bonds
- Real Return Bonds
- Canadian Money Market
- High Yield
- Strip Bonds
- 20+ Bond Indices
- Yankee Bond Indices

TSE Common, Preferred Stocks, and Income Trust Units

- daily closing prices since 1982
- daily prices on select Income Trust Units

Equity Indices

- S&P/TSX , Dow Jones, S&P 500, Nikkei
- Morgan Stanley EAFE index
- Emerging Markets stock indices

Foreign Exchange Rates

- Over 100 cross rates

Economic Statistics

- Canada
- U.S.
- Mexico
- Australia

BondData for Windows

This Windows interface provides both ease of use and report-style graphics, as well as many new features - the ability to save charts & chart layouts, easier management of user-defined groups of securities, direct link to the Windows clipboard, color selection, etc.

Graphs

- ✓ Time Series, spreads, butterflies
- ✓ Canadian & US Markets, Equities, SCM Bond Indices, Economic Series, Euro Markets, Exchange Rates & more
- ✓ User-defined colour charts
- ✓ Utilities such as high-low statistical reports, export to file, copy charts to Windows clipboard for use in other applications

New Features

- ✓ Volume data for Canadian Fixed Income issues
- ✓ Save charts for easy access
- ✓ Combine yield curve & time series within same chart (split windows)
- ✓ Enhanced layout & options
- ✓ Icons for common tasks, customized toolbar
- ✓ Save file to JPG/PNG Graphics format

Yield Curves

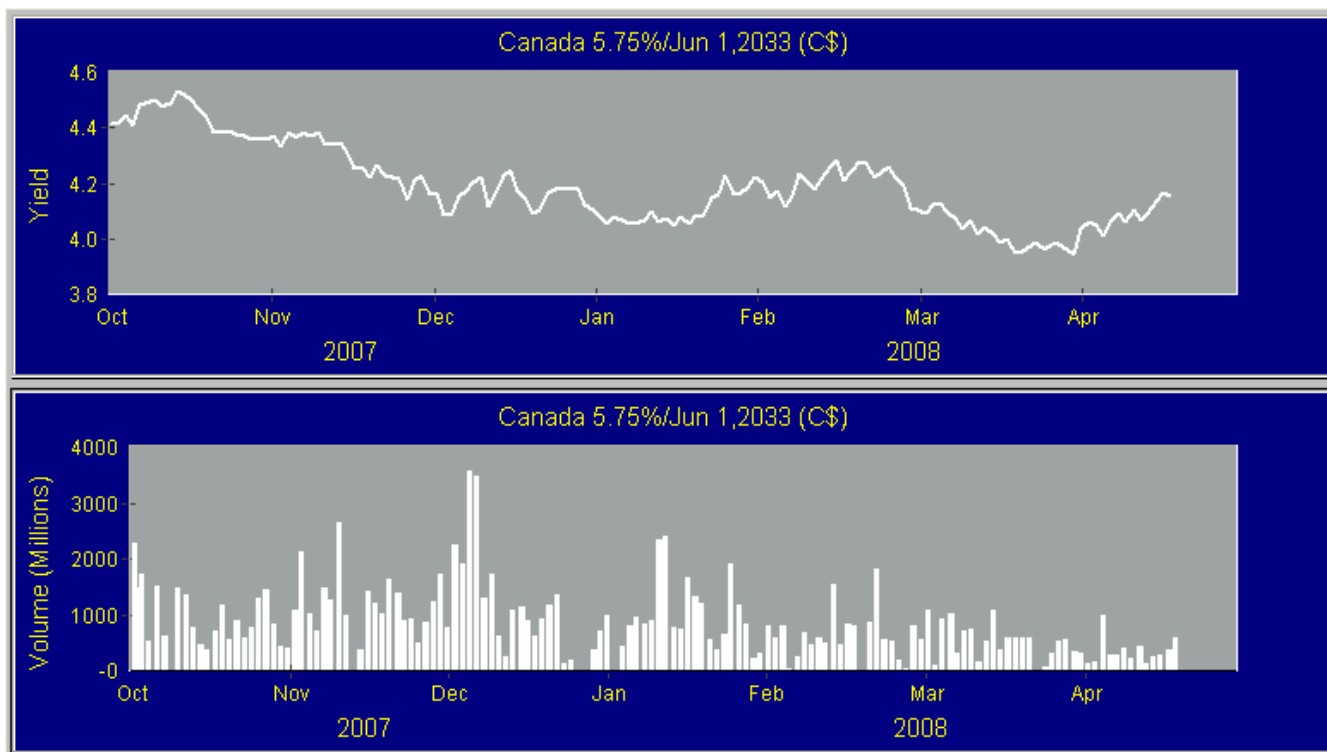
- ✓ Create your own curves
- ✓ Spreads between historical curves

Security Searches

- ✓ On-line search by issuer, coupon, maturity, currency or any combination

Technical Analysis

- ✓ ADXR
- ✓ Bollinger Bands
- ✓ Commodity Channel Index (CCI)
- ✓ Index
- ✓ MACD
- ✓ Momentum
- ✓ Moving Averages
- ✓ Standard Deviation
- ✓ Volatility (absolute & percentage)
- ✓ Others



BondCalc TrX

Fixed Income Calculator program which handles up to one hundred different securities on the same worksheet - Security Valuation & Trade Analysis, Switch Trades, Spread Monitor, Option Adjusted Spread, Sensitivity and Break-Even Analysis. Interpolator function for calculating price, yields & total returns as a user-defined increment off a stated price or yield. The program also contains the Black Sholes Option pricing model.

Trade Analysis

- Multicurrency
- Switches – dollar/dollar, Par/Par, Risk Weighted, User Input
- Butterfly Swaps - Risk Weighted, User Input
- Additional Risk Measures – Convexity, Value of .01
- Cashflow at Settlement, at Horizon

Worksheet Layouts

- Standard
- OAS Layout
- Swaps
- Horizon Return analysis
- MBS layout
- Alphabetic, Quick, or user-defined
- FRN
- RRB

Historical Pricing

- Link to PC-Bond Database of securities
- Access to Bid, Ask & Mid historical prices/yields, trade data (volumes)
- Impact of forecasted exchange rates

Issue Calculations

- Up to 70 issue types
- MBS Analysis - Details, Payment History, Prepayment Statistics, Tranche profile (linked to SCM Database)
- Cashflow Analysis
- User-defined securities
- Saved worksheets

Utilities

- Calendar
- Days Between
- Yield conversion from one frequency to another
- Implied forward calculation

	A	B	C	D
1	Standard Layout	Security 1	Security 2	Security 3
2	Security ID	9321 CAN	75513 CAN	69939 CAN
3	Security Desc.	CAN 9.75/Jun 1,2021 (C	CAN 5.75/Jun 1,2033 (C	CAN 5.75/Jun 1,2029 (C
4	CUSIP	135087UE2	135087XG4	135087WL4
5	ISIN			
6	Issue Type	1=CANF	1=CANF	1=CANF
7	Buy or Sell	SELL	SELL	BUY
8	Settlement Date	Mar 25,2008	Mar 25,2008	Mar 25,2008
9	Coupon or Rate	9.750	5.750	5.750
10	Maturity Date	Jun 1,2021	Jun 1,2033	Jun 1,2029
11	Eff Mat Date	Jun 1,2021	Jun 1,2033	Jun 1,2029
12	Data Source	Mid Price	Mid Price	Mid Price
13	Market Price	162.1296	128.4599	125.5989
14	Market Yield	3.738	3.955	3.954
15	I.R.R.	3.735	3.952	3.951
16	Semi-Annual Yield	3.738	3.955	3.954
17	Accrued Interest	3.0719	1.8116	1.8116

