



# Doing data differently





# Helping the global financial community make informed decisions through the provision of comprehensive, accurate, timely and affordable securities and economic data services

With more than 30 years' experience, we offer comprehensive and accurate securities reference, corporate actions and pricing data for derivatives, equities, fixed income, and investment funds around the globe. We also cover economic data extensively.

We understand how crucial financial and economic data is and take a different approach as to how we proceed:

- We do not rent data, we sell it
- We do not have onerous redistribution rules
- We customize our services to meet your needs
- We cover all countries no matter how large or small
- Finally, we offer competitive prices

As a result of our on-going commitment to providing cost-effective and innovative data solutions, while ensuring the highest standards, EDI has achieved the internationally recognized quality and security certifications ISO 9001 and ISO 27001.

Headquartered in the United Kingdom, we have operations in Australia, Canada, Germany, India, Morocco, South Africa, and the United States.

Our Support Team is available on +44 (0) 207 324 0020, 24 hours a day, Monday to Friday and closed on Christmas and New Year's Day.



#### Fixed Income Offering



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#### Introduction to Worldwide Fixed Income

The Worldwide Fixed Income (WFI) Service enables you to keep track of new bond issues or changes in terms and conditions for both corporate and government issuances. Data is sourced globally from stock exchanges, central banks, ministries of finance, lead managers, paying, calculation and transfer agents.

EDI can provide you with pricing supplements, offering circulars, term sheets and prospectuses for as many securities as possible subject to availability. Its coverage currently covers approximately 30% of the Fixed Income database.

With the service, you will have access to:

- International debt securities in more than 150 countries
- A broad range of asset types including:
  - Convertibles
  - o FRNs
  - o Permanent interest-bearing shares
  - o Preferred securities
  - o Treasury bills

Originally in the equity space, Exchange Data International (EDI) moved to the Fixed Income arena following an increased demand from clients to add debt instruments to its coverage.

As the firm was approached by a major credit rating agency to build a customised fixed income service, it developed its own Fixed Income service providing global coverage of the debt market.

New countries and sources are continually researched and added to enhance geographic coverage and increase the volume of securities in the database. The service provides historical data back from 2007.

To support global trading schedules, EDI offers seven daily data feeds at the times\* below:

| Feed | IST   | GMT   | ET     |  |
|------|-------|-------|--------|--|
| 1    | 09:00 | 03:30 | 22:30* |  |
| 2    | 12:30 | 07:00 | 02:00  |  |
| 3    | 14:30 | 09:00 | 04:00  |  |
| 4    | 16:30 | 11:00 | 06:00  |  |
| 5    | 18:30 | 13:00 | 08:00  |  |
| 6    | 20:30 | 15:00 | 10:00  |  |
| 7    | 22;45 | 17:15 | 12:15  |  |

<sup>\*</sup>Denotes previous business day

#### **Asset Classes**

#### Fully covered:

- Canadian strip packages without underlying
- Cash management bills
- Certificate of deposit (tenure more than 28 days)
- Commercial papers (tenure more than 28 days)
- Convertibles

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- Corporate bonds
- Government bonds
  - o Municipal securities
  - o Short-term corporate Bonds
  - o Short-term government Bonds
  - Strips (parent needed)
  - o Treasury bills

#### Covered on a portfolio basis:

- Asset-backed securities (ABS) (securities entered with critical fields and covered for live client's portfolio, corporate actions not maintained.
- Certificates (covered for live client's portfolio)
- Musharaka Sukuks (securities entered with critical fields and covered for live client's portfolio, corporate actions not maintained)
- Structured Products (corporate actions not maintained)
- Genussschein (AT, CH and DE)
- Mortgage-pass through certificates

In addition, EDI provides a comprehensive global Fixed Income Corporate Action/Event service, to complement the reference data, including security and issuer level events and distributions.

#### **Reference Data**

Number of Fixed Income instruments per region as per October 2024.

| Region            | Security Count |
|-------------------|----------------|
| Africa            | 14,298         |
| Asia and Far East | 159,680        |
| Caribbean         | 3,514          |
| Europe            | 207,826        |
| Latin America     | 50,193         |
| Middle East       | 4,557          |
| North America     | 271,086        |
| Oceania           | 16,480         |
| Unlisted EuroBond | 224,757        |
| Total:            | 952,391        |

Number of Fixed Income instruments per issuer type as per April 2025.

| Issuer Type                   | Security Count |
|-------------------------------|----------------|
| City                          | 3,901          |
| Corporate                     | 821,863        |
| County                        | 1,542          |
| Government                    | 28,877         |
| Government Agency             | 31,578         |
| Municipal                     | 24,614         |
| Supranational                 | 5,915          |
| Government Controlled Company |                |
|                               | 3,895          |
| State Government              | 27,978         |
| Special Purpose Vehicle       | 278            |
| Special Purpose Acquisition   | 67             |
| Company                       |                |
| Other                         | 1,888          |
| Total:                        | 952,931        |
|                               |                |

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| Security Type          | Volume  | Security Type                     | Volume   |
|------------------------|---------|-----------------------------------|----------|
| Bankers' Acceptances   | 1,044   | Loan Stock                        | 389      |
| Bonds                  | 250,657 | Medium-Term Notes                 | 221,166  |
| Capital Securities     | 739     | Notes                             | 162, 640 |
| Cash Management Bills  | 260     | Permanent Interest-Bearing Shares | 20       |
| Certificate of Deposit | 73,490  | Preferential Securities           | 4, 661   |
| Certificates           | 9,510   | Preferred Securities              | 968      |
| Commercial Paper       | 26,735  | Reference Bills                   | 257      |
| Covered Bonds          | 7,195   | Structured Products               | 18, 050  |
| Debentures             | 36, 222 | Strip Packages                    | 553      |
| Loan Notes             | 417     | Treasury Bills                    | 3, 650   |

The following exchange requires a separate license from that stock exchange to redistribute Fixed Income data.

| Country | Exchange                | MIC  |
|---------|-------------------------|------|
| Chile   | Santiago Stock Exchange | XSGO |



# **Full Coverage**

| CntryCD | Country                   | Security Count |
|---------|---------------------------|----------------|
| AE      | United Arab Emirates      | 249            |
| AL      | Albania                   | 115            |
| AM      | Armenia                   | 169            |
| AO      | Angola                    | 408            |
| AR      | Argentina                 | 986            |
| AT      | Austria                   | 9272           |
| AU      | Australia                 | 14395          |
| AW      | Aruba                     | 1              |
| AZ      | Azerbaijan                | 311            |
| ВА      | Bosnia and Herzegovina    | 194            |
| BB      | Barbados                  | 31             |
| BD      | Bangladesh                | 438            |
| BE      | Belgium                   | 3719           |
| BF      | Burkina Faso              | 83             |
| BG      | Bulgaria                  | 132            |
| ВН      | Bahrain                   | 67             |
| BI      | Burundi                   | 743            |
| ВЈ      | Benin                     | 37             |
| BM      | Bermuda                   | 514            |
| BN      | Brunei Darussalam         | 6              |
| ВО      | Bolivia                   | 841            |
| BR      | Brazil                    | 37894          |
| BS      | Bahamas                   | 175            |
| BT      | Bhutan                    | 2              |
| BW      | Botswana                  | 2<br>52        |
| BY      | Belarus                   | 574            |
| BZ      | Belize                    | 12             |
| CA      | Canada                    | 55071          |
| CD      | Congo Democratic Republic | 21             |
| CF      | Central African Republic  | 5              |
| CG      | Congo                     | 23             |
| CH      | Switzerland               | 4796           |
| CI      | Ivory Coast               | 278            |
| CL      | Chile                     | 1744           |
| CM      | Cameroon                  | 12             |
| CN      | China                     | 64721          |
| CO      | Colombia                  | 1081           |
| CR      | Costa Rica                | 431            |
| CV      | Cape Verde                | 97             |
| CW      | Curacao                   | 12             |
| CY      | Cyprus                    | 95             |
| CZ      | Czech Republic            | 518            |
| DE      | Germany                   | 64252          |
| DK      | Denmark                   | 1896           |
| DO      | Dominican Republic        | 251            |
| DZ      | Algeria                   | 83             |
| EC      | Ecuador                   | 255            |
| EE      | Estonia                   | 151            |
| EG      | Egypt                     | 483            |
| ES      | Spain                     | 2878           |

| CntryCD  | Country                  | Security Count |
|----------|--------------------------|----------------|
| EU       | Europe                   | 36             |
| FI       | Finland                  | 509            |
| FJ       | Fiji                     | 344            |
| FR       | France                   | 16700          |
| GA       | Gabon                    | 36             |
| GB       | United Kingdom           | 20509          |
| GD       | Grenada                  | 1              |
| GE       | Georgia                  | 56             |
| GG       | Channel Island           | 674            |
| GH       | Ghana                    | 201            |
| GI       | Gibraltar                | 405            |
| GM       | Gambia                   | 190            |
| GR       | Greece                   | 137            |
| GT       | Guatemala                | 314            |
| GW       | Guinea-Bissau            | 34             |
| GY       | Guyana                   | 27             |
| HK       | Hong Kong                | 4299           |
| HN       | Honduras                 | 207            |
| HR       | Croatia                  | 53             |
| HT       | Haiti                    | 1              |
| HU       | Hungary                  | 866            |
| ID       | Indonesia                | 1827           |
| IE       | Ireland                  | 47944          |
| IL       | Israel                   | 919            |
| IM       | Isle of Man              | 4              |
| IN       | India                    | 32603          |
| IR       | Iran                     | 433            |
| IS       | Iceland                  | 373            |
| IT       | Italy                    | 7931           |
| JE       | Jersey                   | 93             |
| JM       | Jamaica                  | 111            |
| JO<br>JP | Jordan                   | 274<br>14530   |
| KE       | Japan                    | 192            |
| KG       | Kenya<br>Kyrgyz Republic | 218            |
| KH       | Cambodia                 | 2              |
| KN       | St. Kitts & Nevis        | 113            |
| KR       | Korea (South)            | 23509          |
| KW       | Kuwait                   | 53             |
| KY       | Cayman Islands           | 3008           |
| KZ       | Kazakhstan               | 667            |
| LB       | Lebanon                  | 517            |
| LI       | Liechtenstein            | 65             |
| LK       | Sri Lanka                | 301            |
| LS       | Lesotho                  | 56             |
| LT       | Lithuania                | 464            |
| LU       | Luxembourg               | 29143          |
| LV       | Latvia                   | 99             |
| MA       | Morocco                  | 947            |
|          |                          |                |



| CntryCD  | Country                 | Security Count |
|----------|-------------------------|----------------|
| MD       | Moldova                 | 133            |
| ME       | Montenegro              | 4              |
| MG       |                         | 34             |
| MK       | Madagascar<br>Macedonia | 242            |
| ML       | Mali                    | 98             |
| MM       |                         | 5              |
|          | Myanmar                 | 8              |
| MN       | Mongolia                | 15             |
| MO<br>MR | Macao                   |                |
|          | Mauritania              | 16             |
| MT       | Malta                   | 303            |
| MU       | Mauritius               | 249            |
| MV       | Maldives                | 34             |
| MW       | Malawi                  | 126            |
| MX       | Mexico                  | 2998           |
| MY       | Malaysia                | 5235           |
| MZ       | Mozambique              | 43             |
| NA       | Namibia                 | 199            |
| NE       | Niger                   | 46             |
| NG       | Nigeria                 | 187            |
| NI       | Nicaragua               | 21             |
| NL       | Netherlands             | 1505           |
| NO       | Norway                  | 4367           |
| NP       | Nepal                   | 33             |
| NZ       | New Zealand             | 1607           |
| OM       | Oman                    | 98             |
| PA       | Panama                  | 1532           |
| PE       | Peru                    | 256            |
| PG       | Papua New Guinea        | 103            |
| PH       | Philippines             | 325            |
| PK       | Pakistan                | 95             |
| PL       | Poland                  | 780            |
| PR       | Puerto Rico             | 2              |
| PT       | Portugal                | 2835           |
| PY       | Paraguay                | 756            |
| QA       | Qatar                   | 59             |
| RO       | Romania                 | 201            |
| RS       | Serbia                  | 94             |
| RU       | Russia                  | 2176           |
| RW       | Rwanda                  | 112            |
| SA       | Saudi Arabia            | 175            |
| SB       | Solomon Islands         | 49             |
| SC       | Seychelles              | 113            |
| SE       | Sweden                  | 2956           |
| SG       | Singapore               | 4705           |
| SI       | Slovenia                | 81             |
| SK       | Slovak Republic         | 343            |
| SL       | Sierra Leone            | 82             |
| SM       | San Marino              | 4              |
| SN       | Senegal                 | 96             |
| SV       | El Salvador             | 339            |
| SY       | Syria                   | 8              |
| SZ       | Swaziland               | 97             |
| TD       | Chad                    | 9              |
| TG       | Togo                    | 83             |
| TH       | Thailand                | 2593           |
|          |                         |                |

| CntryCD | Country                     | Security Count |
|---------|-----------------------------|----------------|
| TJ      | Tajikistan                  | 29             |
| TN      | Tunisia                     | 447            |
| TO      | Tonga                       | 18             |
| TR      | Turkey                      | 1709           |
| TT      | Trinidad and Tobago         | 29             |
| TW      | Taiwan                      | 2877           |
| TZ      | Tanzania                    | 225            |
| UA      | Ukraine                     | 359            |
| UG      | Uganda                      | 75             |
| US      | United States of<br>America | 216550         |
| UY      | Uruguay                     | 200            |
| VE      | Venezuela                   | 77             |
| VG      | Virgin Islands (UK)         | 9              |
| VN      | Vietnam                     | 677            |
| XS      | XS                          | 225006         |
| ZA      | South Africa                | 7616           |
| ZM      | Zambia                      | 346            |



#### **Worldwide Fixed Income Reference Data**

The Worldwide Fixed Income (WFI) Reference Data service is available in three distinct iterations.

#### Security Reference File

This includes a basic set of security attributes, alongside identifiers.

#### WFI Priority Field File

This output is available at both the security and listing level and contains a key set of most commonly used data attributes, covering terms and conditions information from the offering documentation, including issue price, coupon frequency, benchmark information, outstanding amount, minimum denomination, trading multiple and interest convention. In addition, it includes OpenFIGI symbology.

#### WFI Worldwide Fixed Income (Full Feed & Corporate Actions)

Our most comprehensive offering containing granular information found within circulars and prospectuses.

This extends to >500 fielded attributes, alongside interest and call schedule information. Also contained within this feed is our Corporate Action event and distribution service providing access to the following:

Auctions – Granular information relating to auction events, including amount offered, amount accepted, non-competitive & competitive bids.

Bankruptcy – Provide details of any applicable bankruptcy petitions.

Bondholder Meetings – Details of company bondholder meetings, as a subset of company AGM.

Bond Liquidation – Information on liquidation at the security level.

Consent – Details of any consent solicitation offers provided to Bondholders outlining proposed changes to terms.

Conversion – Information on conversion events, including period, price, ratio and resultant security details.

Currency Redenomination – Notification of any currency redenomination and subsequent changes to the nominal value of the security.

Default – Notification of events of default on the interest and/or redemption.

Drawing – Information on partial redemption by lottery, with no reduction of nominal value. Dutch Auction – Provides details where holders are invited by an acquiring party to make an offer to sell, including minimum/maximum price and amount.

Early Redemption – Detailed information on events of early redemption including price, amount and premium.

Exchange Offer – Comprehensive information on exchange offers, including period, price and the resultant debt security.

Final Maturity – Redemption of the entire issue of outstanding securities by the issuer at final maturity.



Interest Payment – Provides distribution event information of the interest payments of the security.

Issuer Default – Defaults applicable at the issuer level.

Lawsuit – Gives details of any class actions that are taking place. Liquidation – Information on any liquidation occurring at the issuer level.

Listing Status Change – Changes to the status at the listing level, such as suspension or delisting.

Put Redemption – Early redemption at the election of the holder, as per the terms and conditions of the issue, with no reduction of nominal value.

Tender Offer – Information on open/close date, tender offeror and early/regular deadline. The information is available via SFTP or AWS S3 delivery mechanism.

EDI also offer a Swift Compliant ISO15022 feed service, in MT564/MT568 format, with relevant event information and narrative.

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# Sovereign Debt Coverage & Database

Comprehensive coverage of sovereign debt issuance is available, offering a unified platform for tracking government bond auctions, treasury bill sales, and supra-national debt offerings. Historical Data is available as of 2017 for most countries.

#### Comprehensive Sovereign Debt Monitoring

Sovereign debt entities include coverage of 29 national and three supra-national issuers:

Austria, Belgium, Canada, Cyprus, Czech Republic, Egypt, Finland, France, Germany, Ghana, Greece, Hungary, India, Ireland, Israel, Italy, Kazakhstan, Netherlands, Nigeria, Poland, Portugal, Romania, Slovenia, South Africa, Spain, Turkey, Ukraine, United Kingdom, United States, and the European Financial Stability Facility, the European Stability Mechanism, and the European Union.

#### End-of-Day Sovereign Debt Auction Coverage

The addition of sovereign debt auctions from these 29 countries and 3 supra-national issuers allows subscribers to access a unified platform for monitoring sovereign debt issuance. Users can prepare, analyze and compare data. The calendar coverage follows each debt offering through all auction stages, including:

- Auction results
- Formal announcement.
- Initial indicative calendar entry
- Post-auction bidding events
- Settlement

#### Historical Auction Database and Analytics

The searchable sovereign debt database enables users to track and analyze thousands of auctions over the past 5+ years, offering unparalleled insights into issuance trends, limits, and patterns.

- Flexible Search and Categorization: Users can filter data by ISIN, time, maturity range, country, or security type.
- Performance Calculations: Track outstanding issuance and calculate market impact across various debt instruments.
- Live Auction Integration: Any live auction data is automatically added to the database, allowing retrospective analysis of the entire auction event sequence.

#### Market Insights: Issuance Volume Trends

Sovereign debt issuance varies significantly across countries, reflecting economic conditions and policy decisions.

France (High Issuance) conducts approximately 120 T-bill auctions totaling EUR 360 billion and 94 bond auctions amounting to EUR 190 billion annually.

Greece (Low Issuance), due to prior defaults, primarily issues T-bills rather than bonds, with a smaller issuance volume of EUR 35 billion annually. This disparity highlights the importance of a comprehensive, comparative approach to sovereign debt monitoring.



# **Pricing Data**

EDI provides both evaluated and exchange listed fixed income prices.

#### **Evaluated Pricing**

The Fixed Income Evaluated pricing service provides clients with a daily source of independent prices on over 2 million global securities. The Fixed Income Pricing Service provides prices on a wide range of fixed income securities, including:

| Government Bonds      | 8000 securities      | Non-Agency CMO | 250,000 securities |
|-----------------------|----------------------|----------------|--------------------|
| Corporate Bonds       | 150 securities       | CMBS           | 15,000 securities  |
| Municipal Bonds       | 1 million securities | ABS            | 20,000 securities  |
| Syndicated Bank Loans | 3,000 loans          | CDO & CLO      | 1,500 securities   |
| Agency MBS            | 1 million securities |                |                    |

We currently have investment grade and high yield indicators for 1.35 million global sovereign, global corporate and U.S. municipal bonds.

#### **Delivery Frequency**

Valuations are calculated daily at the close of major markets. For more liquid bonds, intraday valuations may be available. Valuations can be delivered on a same-day or next-day basis.

#### Methodology

In this section, we provide a high-level summary of the methodology used to calculate security prices.

#### **Corporate Bonds & Municipal Bonds**

EDI provides comprehensive coverage on global corporate bonds and U.S. municipal securities.

#### **Pricing Methodology**

EDI acquires observable pricing data from trade reporting utilities and parses indicative prices from emails sent from the sell side to the buy side. Prices are organized based on issuer, and an issuer-level yield curve is implied from the prices. This yield curve is used to price on and off-the-run securities from the same issuer. For those issuers that lack sufficient liquidity to imply an issuer-level yield curve, securities are priced using a proxy curve chosen based on factors such as rating, sector, region and/or industry.

#### **Syndicated Bank Loans**

EDI provides prices on approximately 3000 global syndicated bank loans.

#### Pricing Methodology

EDI parses indicative prices from emails sent from the sell side to the buy side. Prices are organized based on issuer and tranche and then cleaned to remove outliers or stale prices. An average is then formed. If observable pricing information from the lead syndicate bank is available, these prices may be weighted more heavily when calculating the average.



#### Agency MBS & non-Agency CMO

EDI provides prices on a comprehensive set of agency MBS and non-agency CMO.

#### **Pricing Methodology**

Securities are grouped into categories based on collateral, seniority and type of tranche. A range of yields is determined for each category.

For Re-REMIC, prepay and default vectors are calculated using models that reflect current market conditions (including views on housing and unemployment). These models also reflect the latest available remittance reports, which are used to generate loan-level performance expectations. Using the model-supplied prepayment and default vectors, cashflows are generated for each of the tranches that comprise the Re-REMIC. Those cashflows are then aggregated and applied to the tranches that comprise the Re-REMIC structure.

Each individual tranche is reviewed to assign an adjustment factor to the baseline discount margin (DM)/yield. The adjustment factor is based on specific shelf and servicer names, bond Insurance (if applicable), structural/waterfall features, and underlying collateral quality.

Cashflows are discounted at the DM/yield according to the baseline yields and adjustments from above.

#### **Quality Assurance**

Prices are then checked against parsed prices for each bond, bonds from the same deal, bonds from the same shelf, and bonds that have similar structure and collateral. Appropriate adjustments are made based on these observable prices.

#### **CMBS**

EDI provides month-end prices on approximately 15,000 commercial mortgage-backed securities (CMBS).

#### **Pricing Methodology**

Securities are grouped into categories based on deal type, seniority, and vintage. A range of yields is determined for each category.

Each individual tranche is reviewed to assign an adjustment factor to the baseline DM/yield. The adjustment factor is based on specific shelf and servicer names, structural/waterfall features, and the underlying collateral quality, type, and geographic concentrations.

For bonds subject to credit risk (e.g., CMBS Subs and CRE CDO), the following variables are also considered:

- NCF Stress using stresses derived from broad-based economic assumptions including unemployment and GDP
- Cap rates based on geographic and property type metrics
- Recovery lag based on CMBS market observations
- Months-cured after term defaults based on market observations
- DSCR triggers for term defaults
- LTV thresholds for extensions and balloon extensions, based on market observations



Default assumptions are generated using property-level cashflow and capitalization rates and predict defaults and severities based upon broad-based economic assumptions. For loans underlying CRE CDO that are not modelled, we review the loan's performance and current fundamental factors and financials to determine if and when we believe cashflows will occur.

Attachment and detachment points for the tranche are reviewed against expected collateral losses in order to determine whether the tranche is likely to take a write down, and if so, by how much. The resulting cashflows are discounted at the DM/yield according to the matrix and adjustments described above. For CMBS Subs and CRE CDO, WAL and principal coverage (expected principal repayment) are considered in formulating and refining the yields.

Subordinate bonds and CRE CDO may perform strongly in some scenarios but are quick to default in others. This volatility may need to be reflected in the pricing.

#### **Quality Assurance**

Prices are then checked against parsed prices on each bond, bonds from the same deal, and bonds from the same shelf. Appropriate adjustments are made based on these observable prices. To the extent applicable, relevant indices are also considered.

#### **ABS**

EDI provides month-end prices on approximately 20,000 asset-backed securities (ABS).

#### **Pricing Methodology**

Securities are grouped into categories based on collateral type, fixed or floating bond type, tranche type, average life, and collateral coupon. For some securities, assets are further classified into issuer and collateral quality tiers. A benchmark range of yield, DM or spread is determined for each category. Due to the large volume of new ABS deals, new issue pricing is also used as an input to determine benchmark level.

Each individual tranche is reviewed to assign an adjustment factor to the baseline yield or spread.

The adjustment factor is based on tranche type, collateral coupon, loan size/age, structural/waterfall features, and recent collateral performance Prepay and default assumptions are generated, and then cashflows are discounted at the appropriate yield or spread according to the matrix and adjustments described above.

Model adjustments may be made to prepay and default in accordance with performance and prevailing market conditions.

#### **Quality Assurance**

Prices are then checked against available recent trading and indicative colour on each bond, bonds from the similar collateral, and bonds with similar structural characteristics.

Appropriate adjustments are made based on these observable prices.

#### **CLO**

EDI provides month-end prices on approximately 1500 U.S. and European collateralized loan obligations (CLO).



#### **Pricing Methodology**

First, EDI assigns a rating to each CLO manager. These manager ratings are used to construct a cube of rating and bond seniority in the capital structure, which is then used to determine the baseline DM/yield of each CLO bond.

Each individual CLO tranche is reviewed to assign an adjustment factor to the baseline DM/yield.

The adjustment factor is based on structural/waterfall features, underlying collateral quality and specific manager names.

EDI implies default, prepayment and recovery assumptions from parsed market data; these assumptions are then applied to the underlying loans and any other collateral.

Next, cashflows are generated based on the collateral assumptions described above and are then discounted at the DM/yield according to the matrix and adjustments described above.

The net-asset value (NAV) of the CLO portfolio of loans is determined by gathering pricing data on all of the underlying collateral. The NAV is used to determine the material value overcollateralization available for each tranche. The price of the tranche may be adjusted to reflect the relative amount of NAV coverage.

#### **Quality Assurance**

Prices are checked against parsed prices for each bond, bonds from the same deal, and bonds from the same manager. Appropriate adjustments are made based on these observable prices.

#### Observation based pricing

Access data rigorously collected from thousands of different sources.

Know that the best possible price will be calculated for every security in our universe. Stage 1:

Layering transactional pricing data

Bid-offer pricing data, positions data from government cash management and pension plans (state / federal/ local), Insurance companies, ETF's, open and closed end mutual funds.

Stage 2: Weighted regression analysis

Reconciles observations into a single meaningful price. This means pricing is more accurate to the true value of the security than simple matrix pricing or bid-offer pricing data.

#### Transparency

Detailed reports provide the number of pricing points used for input, details on the type of pricing points, transactional or institutional, curve analysis and correlation analysis used.

#### Build a stronger analysis

Use a built in 'confidence quotient' to clearly distinguish the quality of each pricing point.

#### Providing accurate and timely data

Exploit a powerful data collection platform driven by cutting edge technologies. This means more analysis and checking is conducted prior to data delivery. Ultimately this leads to more accurate and timely data.



#### Municipal Bonds Information Service Data Feed Services

- Bids wanted with the full bid stack for all bids wanted, regardless of participation.
- Offerings, most of which are executable on MBIS partner trading platforms.
- Intraday updates, every 15 minutes, to ensure the data is available when it is needed.
- A comparable securities product that identifies peer bonds with recent market data for the majority of municipal bonds, including liquid securities.
- A Municipal benchmark curve powered by executable market data updated hourly.
- Expertise in leveraging the data to support the front, middle, and back office.

#### Municipal Market Benchmark Service

- Available intra-day on an hourly basis in (providing an early indication into other benchmark's direction for the day)
- Based upon a set of constituent bonds determined monthly, fully disclosed, and priced directly from the available market data.
- Results produced through an objective, fully automated, and transparent methodology, and monitored by a rigorous quality assurance process.
- Data fields include yield curves, Constituent bond pricing, and underlying market data. The basic service includes the Muni Benchmark Curve, Investment Grade Credit Curves, and Insured Spread Curves.
- Custom yield curves (State, Sector, etc.) can be generated and provided upon request.

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| County   | Country                      | ISIN              | Country  | Country                  | ISIN           |
|----------|------------------------------|-------------------|----------|--------------------------|----------------|
|          | Country                      | Count             |          | Country                  | Count          |
| Code     | Linita di Angla Fusinata     |                   | Code     | Labaras                  |                |
| AE       | United Arab Emirates         | 10                | LB       | Lebanon                  | 224            |
| AM       | Armenia                      | 25                | LK       | Sri Lanka                | 146            |
| AR       | Argentina                    | 49                | LT       | Lithuania                | 18             |
| AT       | Austria                      | 896               | LU       | Luxembourg               | 26             |
| AU       | Australia                    | 6098              | LV       | Latvia                   | 11             |
| BA       | Bosnia and Herzegovina       | 9                 | MA       | Morocco                  | 83             |
| BD       | Bangladesh                   | 308               | MD       | Moldova                  | 2              |
| BE       | Belgium                      | 726               | MH       | Marshall Islands         | 10             |
| BG       | Bulgaria                     | 13                | ML       | Mali                     | 23<br><b>7</b> |
| BH       | Bahrain                      | 50                | MM       | Myanmar                  |                |
| BM       | Bermuda                      | 22                | MO       | Macao                    | 4              |
| BR       | Brazil                       | 40                | MT       | Malta                    | 130            |
| BW       | Botswana                     | 15                | MU       | Mauritius                | 157            |
| CA       | Canada                       | 13840             | MX       | Mexico                   | 143            |
| CH       | Switzerland                  | 804               | MY       | Malaysia                 | 2576           |
| CI       | Ivory Coast                  | 52                | NA       | Namibia                  | 24             |
| CL       | Chile                        | 28                | NE       | Niger                    | 19             |
| CN       | China                        | 33532             | NG       | Nigeria                  | 34             |
| CO       | Colombia                     | 32497             | NL       | Netherlands              | 48             |
| CR       | Costa Rica                   | 19                | NO       | Norway                   | 1670           |
| CW       | Curacao                      | 1                 | NZ       | New Zealand              | 342            |
| CY       | Cyprus                       | 11                | PA       | Panama                   | 232            |
| CZ       | Czech Republic               | 115               | PE       | Peru                     | 50             |
| DE       | Germany                      | 8175              | PH       | Philippines              | 235            |
| DK       | Denmark                      | 951               | PK       | Pakistan                 | 60<br>164      |
| DO       | Dominican Republic           | 10                | PL<br>DT | Poland                   |                |
| EG       | Egypt                        | 117               | PT       | Portugal                 | 166            |
| ES       | Spain                        | 765               | PY       | Paraguay                 | 1              |
| EU       | Europe                       | 134               | QA<br>DO | Qatar                    | 46             |
| FI<br>FR | Finland<br>France            | 99<br>2408        | RO<br>RS | Romania<br>Serbia        | 63<br>38       |
|          |                              |                   | RU       |                          | 621            |
| GB<br>GE | United Kingdom               | 974<br>31         | SA       | Russia                   | 17             |
| GG       | Georgia<br>Channel Island    | 2                 | SE<br>SE | Saudi Arabia             | 1087           |
| GH       |                              | 53                | SG       | Sweden                   | 471            |
| GR       | Ghana                        | 81                | SI       | Singapore<br>Slovenia    | 31             |
|          | Greece                       |                   |          |                          |                |
| HK<br>HU | Hong Kong                    | 1093              | SK<br>SN | Slovak Republic          | 96<br>27       |
|          | Hungary                      | 129<br>839        | TH       | Senegal                  | 337            |
| ID       | Indonesia                    |                   |          | Thailand<br>Tunisia      |                |
| IE<br>IL | Ireland                      | 38<br>241         | TN<br>TR |                          | 29<br>68       |
| IL<br>IM | Israel<br>Isle of Man        | 24 I<br><b>1</b>  | TW       | Turkey<br>Taiwan         | 1096           |
| IN       | India                        | 8276              | TZ       |                          | 26             |
|          | lceland                      | 8276<br>14        | UA       | Tanzania                 | 26<br>15       |
| IS<br>IT |                              | 407               | UG       | Ukraine<br>Uganda        | 15<br>46       |
|          | Italy                        |                   | US       | United States of America | 46<br>1825033  |
| JE<br>JO | Jersey<br>Jordan             | 2<br>75           | UY       |                          | 1825033<br>24  |
|          |                              | 9711              |          | Uruguay                  | 397            |
| JP<br>KE | Japan                        |                   | VN       | Vietnam                  |                |
| KE       | Kenya                        | <b>9</b><br>11611 | XC       | XC<br>XS                 | 2              |
| KR<br>KY | Korea (South)                | 3                 | XS<br>ZA | South Africa             | 18267<br>331   |
| KZ       | Cayman Islands<br>Kazakhstan | 92                | ZA<br>ZM | Zambia                   | 84             |
| r\Z      | Nazakiislaii                 | 92                | Total:   | Zamula                   | 1990392        |
|          |                              |                   | TOTAL.   |                          | 1990392        |

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# **Exchange Listed Fixed Income Instruments**

EDI also provides prices for fixed income securities which are listed on exchange.

| Country Code | Country                | Security Count      |
|--------------|------------------------|---------------------|
|              |                        | 11853 without ISINs |
| AR           | Argentina              | 59                  |
| AM           | Armenia                | 55                  |
| AU           | Australia              | 85                  |
| AT           | Austria                | 417                 |
| BS           | Bahamas                | 6                   |
| BD           | Bangladesh             | 1                   |
| BE           | Belgium                | 18                  |
| ВА           | Bosnia and Herzegovina | 62                  |
| BG           | Bulgaria               | 7                   |
| CA           | Canada                 | 103                 |
| CN           | China                  | 1290                |
| CO           | Colombia               | 5                   |
| CY           | Cyprus                 | 12                  |
| CZ           | Czech Republic         | 124                 |
| DK           | Denmark                | 1156                |
| DO           | Dominican Republic     | 4                   |
| EG           | Egypt                  | 50                  |
| SV           | El Salvador            | 5                   |
| EE           | Estonia                | 11                  |
| FI           | Finland                | 1                   |
| FR           | France                 | 193                 |
| DE           | Germany                | 39641               |
| GR           | Greece                 | 57                  |
| HK           | Hong Kong              | 3                   |
| HU           | Hungary                | 3                   |
| IS           | Iceland                | 133                 |
| IN           | India                  | 764                 |
| ID           | Indonesia              | 51                  |
| IR           | Iran                   | 2                   |
| IL.          | Israel                 | —<br>776            |
| iT           | Italy                  | 2090                |
| Cl           | Ivory Coast            | 22                  |
| JP           | Japan                  | 3                   |
| KE           | Kenya                  | 24                  |
| KR           | Korea (South)          | 573                 |
| LV           | Latvia                 | 20                  |
| LT           | Lithuania              | 22                  |
| LU           | Luxembourg             | 15080               |
| MK           | Macedonia              | 19                  |
| MY           | Malaysia               | 256                 |
| MT           | Malta                  | 88                  |
| MU           | Mauritius              | <b>4</b><br>34      |
| MA           | Morocco                | 34<br><b>1</b>      |
| MZ<br>NA     | Mozambique<br>Namibia  | 21                  |
| NL           | Netherlands            | 46                  |
| NZ           | New Zealand            | 134                 |
| NG           | Nigeria                | 4                   |
| OM           | Oman                   | 2                   |
| PA           | Panama                 | 21                  |
| PY           | Paraguay               | 138                 |
| PL           | Poland                 | 381                 |



| PT | Portugal                 | 23    |
|----|--------------------------|-------|
| RO | Romania                  | 70    |
| RU | Russia                   | 1599  |
| SA | Saudi Arabia             | 23    |
| RS | Serbia                   | 2     |
| SG | Singapore                | 20    |
| SK | Slovak Republic          | 48    |
| SI | Slovenia                 | 9     |
| ZA | South Africa             | 1     |
| SE | Sweden                   | 201   |
| CH | Switzerland              | 2146  |
| TW | Taiwan                   | 249   |
| TT | Trinidad and Tobago      | 14    |
| TR | Turkey                   | 127   |
| UG | Uganda                   | 4     |
| GB | United Kingdom           | 873   |
| US | United States of America | 16335 |
|    | Total                    | 97674 |

# **Document Retrieval Service**

#### Gain access to EDI's huge library of fixed income securities offering documents

The Document Retrieval Service is a web-based application that fully compliments the Worldwide Fixed Income proprietary feed and browser products. Users benefit from access to its huge library offering documentation for fixed income securities.

Documents are available for download in their original format, PDF, Microsoft Word and Excel and include:

- Offering circulars
- Prospectuses
- Term sheets
- Pricing supplements

Easily locate documents for retrieval

Choose from search fields including ISIN, US Code, or Symbol as well as via Issuer Name or use the portfolio checker feature to locate required documents. If a document is unavailable, subscribers can place an order for it to be traced.



# Fixed Income Derived Data (bond $\Sigma$ )

The service combines our worldwide fixed income and bond-pricing data with algorithms from our partner who specializes in cloud based financial applications.

bond<sup>5</sup> currently covers 150,000 exchange traded debt securities including government and corporate, fixed rate, floating, and convertible issuance, providing clients with an insightful report on the global fixed income market.

#### Value and efficiently manage portfolios

Files comprise of an initial set of 11 fixed income derived data fields along with 16 fields from the Last Trade file and are delivered the next day at 8am GMT.

|   | A       | 1 - 1 1  |
|---|---------|----------|
| • | Accrued | ınterest |

- Yield
- Yield to Maturity
- Yield to Call
- Yield to Put
- Yield to Worst
- Convexity

- **Modified Duration**
- **Key-Rate Duration**
- **Exchange Code**
- Market Close Date
- Last Trade Date Closing Price
- Price Currency

- Low
- Mid
- Ask
- Bid
- Bid Size
- Ask Size
- **Traded Volume**

Files can easily be customized and include another 25 identifiers and reference data fields, key for the calculations:

- ISIN
- US Code
- Security ID
- Local code
- Issuer name
- Security description
- Issue price

Issue date

- Bond type
- Bond
- Currency
- Nominal value
- Country of incorporation
  Outstanding amount
- Interest type
- Interest rate
- Interest payment
- Frequency
- FRN index benchmark
- Mark-up

- Maturity date
- Maturity price as
- per cent
- Call/Put flag Call/Put type
- Callable from/to date
- Call price

Use bond<sup>I</sup> to get the necessary data required to efficiently control the risk associated with fixed income portfolios, project security or portfolio returns, as well as complying with regulatory requirements.



#### Customization

EDI is proud to offer the most effective and efficient solutions tailored to meet each individual customer's needs. We offer a range of customization options including:

- Delivery-based solutions to complement existing client infrastructure.
- Content delivered at the geographical or portfolio holding level.
- Feeds delivered in various formats, field content and integrated client level data items.

EDI uses its extensive data research expertise to source, scrub and integrate new client specified data items with existing products and services. For instance, a request from a multinational investment bank to source the DR universe and map it against its underlying share portfolio ultimately led to the development of EDI's successful Depositary Receipt Database.

In addition, EDI was the first vendor to successfully launch an ISO 15022 Corporate Action Messaging feed. This enables customers to reduce costs and increase efficiency by removing the need for multiple feed handlers.

## **Support**

#### **Customer Support**

Monday - Friday Open 24 hours

#### Saturday

Support Coverage ends 8am (GMT)

#### Sunday

Support Coverage resumes at 11pm (GMT)

# Support Coverage is not available

Saturday 8am to Sunday 11pm

Call +44 207 324 0020

Email: <a href="mailto:support@exchange-data.com">support@exchange-data.com</a>

Customer support is closed on Christmas and New Year's Day.

We aim to acknowledge all queries within an hour of receipt and answer queries within 24 hours where possible.

We will send a progress report if a query is not resolved within that timeframe. We resolve around 95% of customer queries within 24 hours.

All queries sent to our Support department are filtered and dispatched to the relevant department. An IT staff member is engaged in the communication process to resolve complicated technical issues.



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