eXtensible Business Reporting Language

A Guide for Investors

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Centre for Financial Market Integrity

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Executive Summary

The adoption of eXtensible Business Reporting Language (XBRL) for financial reporting holds great promise as a source of efficiency, transparency, and comparability in the delivery of financial information. XBRL provides a standardized, interactive, computer-based framework for financial reporting and offers clear advantages to filers, investors, and regulators. CFA Institute supports the initiative enthusiastically.

Many challenges, however, impede the successful implementation of XBRL. Chief among these challenges is the ability of the managers of filing companies to manipulate or "work around" reporting by customizing or "extending" the core dictionary of fields (that is, the taxonomy or classification) of the reporting format. If companies extend the defined fields excessively, the platform will lose the vitally important benefit of comparability.

Regulators in several capital markets, including China, Japan, and the United States, already have mandated XBRL-formatted reporting. As XBRL is adopted globally, regulators will be challenged to develop and maintain reporting field lists that are broad enough to be both useful and meaningful for the full spectrum of company filers. Specifically, regulators will have to develop reporting approaches that are neither so broad that they encourage (undue) user work-arounds nor so rigid that they fail to capture the essence of a company's financial standing.

The CFA Institute Centre for Financial Market Integrity has generated a series of guiding principles for the development of an effective and appropriately elastic XBRL framework. These five principles are based on preferences CFA Institute members revealed in recent surveys and research conducted by the Centre's volunteer XBRL working group. The recommendations include the development of regulation-based core taxonomies that are applicable to the variety of industries involved but also limit customization. We also encourage maximum comparability, full adoption of XBRL, and free access for the general public. Finally, the principles encourage regulators to incorporate XBRL into their updating processes as accounting and reporting standards evolve.

Fully incorporating XBRL into all aspects of corporate disclosure—whether financial reporting, sustainability, or corporate actions—will require the combined efforts of the public and private sectors. *eXtensible Business Reporting Language: A Guide for Investors* introduces some of the expectations and challenges to be considered as regulatory mandates for XBRL reporting increase, and it offers a general overview of XBRL reporting and a complete discussion of our recommended principles. Details about some portions of our XBRL survey are in Appendix A, and information about the metadata in the taxonomy (information that adds a layer of detail to the data) is in Appendix B at the end of this report. The Centre's website, www.cfainstitute.org/centre, provides additional resources, and the approved U.S. GAAP taxonomy is available for download from the XBRL US website, www.xbrl.us.

Introduction

eXtensible Business Reporting Language (XBRL) provides a standardized, interactive, computer-based framework for financial reporting and financial statement generation. In the past decade, this reporting framework has proven to be a promising technological advance for filers, investors, and regulators. It provides key benefits in the form of increased efficiency, transparency, and comparability in the delivery of financial information to all parties in the information supply chain, regardless of their varying needs.

The reporting of financial information is the lifeblood of global capital markets, and financial reports are the key communication tool between companies and investors.[1] So, if XBRL is implemented wisely, the mandatory adoption of it for financial reporting will be of significant benefit to all concerned.

The development of this platform is in keeping with the long history of improvements to the nature and structure of financial reports. Reporting has evolved to accommodate the increasingly sophisticated demands of capital providers—from creditors' earliest and simplest use of data and measures of solvency to the current integration of financial data into cash flow forecasting models. Often, the new technologies in and of themselves have inspired advances in decision-support techniques, and we believe that XBRL will be a force for change in this manner.

What Is XBRL?

In basic terms, XBRL reporting replaces traditional text-based financial reporting with a computer-based input program that enables filing companies to deliver financial data directly in a computer-readable format. The recipients of those filings use software applications that convert the filings back into a set of human-friendly financial reports that include all required columns, hierarchies, and links. In this way, financial data become searchable and easily comparable. The values entered can be integrated into other analytic applications or used to compare financial statements over time or among companies. XBRL is part of the Extensible Markup Language (XML) family of standards that are used to facilitate the communication of information between computer applications. It uses technology similar in concept to the bar codes used to track and identify products sold at markets, where the structure of the bar code is based on a standardized taxonomy that accounts for the various types of products available.

The strength of the XBRL framework is in the strength of the taxonomy, or list of fields, the companies use when completing their filings. A robust, well-defined, and stable taxonomy can provide for greater precision and comparability between company reports than can be found in the various text formats companies presently use, which are full of inconsistencies. Many questions regarding best practice for the development of taxonomies by regulators, however, remain to be answered; we address some of these questions in this report.

More about Taxonomy

For purposes of XBRL reporting, taxonomy is essentially the dictionary of elements, or tags, that represent the concepts/fields of reporting that regulators require in financial statement filings—for example, tags exist for total assets and earnings per share in the dictionaries related to U.S. and international accounting standards. Each element incorporates metadata, a term that is best defined as additional, clarifying information that adds a layer of detail to the data. Such metadata establish how a field is defined and its role in calculating other fields, and if appropriate, the metadata incorporate references to regulatory literature discussing

[1]As used in this report, the term "investors" includes providers of financial capital—current and potential investors as well as creditors and related parties.

the nature of the field.[2] This metadata information enables user applications to distinguish between items such as net income and net interest income and allows the tagged data to be easily searched and displayed. Appendix B provides some aspects of the metadata included in the U.S. GAAP (generally accepted accounting principles) taxonomy.

In XBRL reporting, extensibility is a fundamental aspect of the developed framework. Extensibility allows filers to make adjustments to the label of a single item of data and to modify the calculation and presentation of fields in the base taxonomy. Extensions become a cause for concern, however, when companies begin to add new fields to tag their operations if such tags fall outside the hierarchy of the data. Unfortunately, extensions that fall outside the data hierarchy limit the comparability between company reports that many users of the information rely on in conducting their analyses.

Reporting programs that rely on a standard, fixed form for collecting information use taxonomies with limited extensibility. XBRL programs without a fixed form allow companies the flexibility to customize the taxonomy by supplementing the standard list of fields with information or details that are materially important to understanding that company's specific operations. This flexible form can be very useful for filers as they strive to accurately portray their company's business model.

The primary forms of taxonomy are as follows:

- **Fixed Taxonomy:** Tax authorities and prudential regulators (e.g., central banks) are likely to opt for a fixed taxonomy because those regulators often require companies to provide information in a standardized form. Because the form is a requirement, the elements of the core taxonomy mimic the fields of the form.

  Some regulators may be able to convert to an XBRL reporting structure without filing companies even knowing a technological change has occurred; the computer-readable nature of XBRL allows regulators to develop internet-based applications for collecting the information they require. Regulators can provide a secure and interactive online form through which companies can enter information that the form then converts to an XBRL "instance document" (to be defined later).

  Using such a standardized form and fixed taxonomy ensures comparability among financial reports. Company officials do not have to determine which taxonomy element is appropriate to represent a specific item nor struggle to determine the need for custom extensions. Unfortunately, some market regulators' filings are not standardized, so they need to use a more flexible taxonomy structure.

- **Flexible Taxonomy:** Because capital market regulators oversee companies in multiple industries, filing requirements are necessarily flexible to allow companies to present only the fields appropriate to their operations. Therefore, a banking institution's financial statements contain items significantly different from those relevant to a homebuilder or internet provider. Flexibility in the taxonomy helps reduce clutter by allowing companies to select and include only relevant fields in their reports.

  The core taxonomy of such a flexible structure is based on existing accounting standards that address the market regulators' requirements. Accounting standards such as the International Financial Reporting Standards (IFRS) and U.S. or other national GAAP provide the starting point for determining the required elements. These standards contain the definition for measuring the required fields and may describe additional disclosures helpful in clarifying the reported values. Combining these requirements with other regulations on layout and presentation—for example, the statement of financial position versus the cash flow statement—allows the taxonomy to capture the minimum of what a company reports. A flexible taxonomy provides companies the option of adding company-defined fields. The protocol applied by regulators in the use of this feature is essential in determining the effect of extensions on comparability of reports among companies within the same industry, as well as across industries. A poorly defined protocol could severely impact comparability.

[2]XBRL functionality incorporates a way to cite which regulator's definitions are applicable in a given report and also the means to link the reader of the report to relevant regulations.

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"Instance document," another important XBRL-related term, refers to the actual computer-readable submission made by the company. This filing is not meant to be read by analysts and investors; it is not written in text but in computer code, comparable to the HTML coding that is behind many internet pages. The benefits of XBRL-tagged information appear when an application converts the instance document to a human-friendly reporting format, in much the same way that Internet Explorer or Adobe Acrobat converts HTML or PDF reports. The computer-readable format of XBRL introduces consistency and comparability of information not available in text-only filings.

Interaction between Regulators

Financial and business reporting is presently governed by many different regulators. Reporting companies must follow the rules and requirements for measuring and displaying information set by accounting boards, stock exchanges, and industry-specific and capital market regulators. Other than the delivery mechanism, implementing XBRL-tagged reporting will not initially change the regulators' information requirements. The changed delivery process will introduce a new type of regulator, XBRL International, Inc. (XII),[3] the owner of the XBRL technical specifications.

XII is a not-for-profit consortium of companies and government agencies worldwide that are working to develop the technical specification that represents the XBRL language. XII also reviews (and approves) the taxonomies used for regulatory reporting to ensure that they adhere to technical requirements. XII does not, however, validate whether any taxonomy contains specific fields necessary to tag regulators' required information.

Initially, many XBRL reporting platforms will primarily improve investors' and other users' access to the information that is already required. Later, as new standards are developed or existing standards are updated, the corresponding fields within a regulator's taxonomy may be developed to correspond with the evolving standards. The development of tags tied to specific market regulations is often completed by local jurisdictions of XII, which separates the standard-setting process from the development of related tags (e.g., the U.S. GAAP taxonomy was developed by XBRL US under contract for the U.S. SEC).

The country- and topic-based jurisdictional approach of XII offers advantages (beyond the advantages provided to financial reporting regulators) for promoting the adoption of XBRL and advancing the taxonomy development. To capture the full range of potential benefits within the financial reporting area, however, the regulators need to move beyond viewing XBRL solely as a way of delivering what is required today. The flexibility in moving information once it is tagged will allow regulators to focus on what is needed to understand the economics of a business instead of where the new information about the business is reported.

The U.S. SEC's recently proposed and adopted rules provide some examples of needed integration. Its 2008 IFRS Roadmap[4] discusses the plan to mandate XBRL reporting for companies reporting in either U.S. GAAP or IFRS. The Roadmap highlights the need for the IFRS taxonomy to expand the level of detail that can be provided within the active reports and explains the SEC's involvement with the XBRL Advisory Council of the International Accounting Standards Committee Foundation. Part of the decision to allow U.S. companies to use IFRS for reporting will be based on the progress made in aligning the U.S. GAAP and IFRS taxonomies. Clearly, only through the integration of XBRL into the standard-setting and financial reporting processes can XBRL become a true facilitator of decision-useful information for users of financial reports.

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[3]The XBRL International website contains a wide variety of information on XBRL, including the approved technical specification, changes being considered, and updates on the global adoption of XBRL for financial reporting (www.xbrl.org).
[4]The full U.S. SEC rule proposal of the IFRS Roadmap (33-8982) is available on the SEC website (www.sec.gov/rules/proposed/2008/33-8982.pdf).

A Boon to Investors, Filers, and Regulators

During his 2007 testimony before the U.S. Senate Committee on Banking, Housing, and Urban Affairs, SEC Chairman Christopher Cox stated, "XBRL would in fact give investors better access to the information because they could find it more easily."[5] Indeed, the benefits to the investing community are largely recognized as the main accomplishment implementing XBRL across the global markets will achieve. Professional investors will be able to receive detailed information imported directly into their forecast models, and everyday investors will gain access to company information and clarity about companies' financial situations—which will improve the operations of the capital markets because user groups will all have similar access to public financial information as the information is disclosed.

The core XBRL reporting improvement relates to the ease it provides for fundamental investment analysis of companies. When regulators mandate XBRL, users of financial data will benefit from having electronic information available for all companies. Electronic availability allows investors to spend less time collecting data and more time making investment decisions—and for a broad range of investment opportunities. The potential benefits for investors will expand as the number of companies required to file XBRL reports increases and the requirements expand into all global markets.

Professional investors are not the only ones, however, who will benefit from XBRL reporting. Fundamental analytical work—such as peer analysis and trend comparisons—will be possible for both filing companies and regulators. Companies' preparation of peer-based analysis for their boards of directors, annual reports, and websites will become easier when XBRL reporting can be used to gather information about competitors. Future benefits include improvements to internal reports used by management as well as improvements to the audit process. Furthermore, any regulatory group that must use data for a single company over multiple periods, or for a group of comparable companies, will find the XBRL framework to be an improvement. Cost reduction will increase as regulators—capital market, prudential, and taxation—continue building a collaborative implementation of XBRL.

Other improvements to regulators' operations and to filing companies' efficiencies are worth noting. The following excerpt from the 2006 annual report by the U.S. Federal Reserve Board on the E-Government Act of 2002 highlights the improvements U.S. banking regulators anticipate with the conversion to an XBRL framework for collecting information:

> The banking agencies and reporting institutions have realized major improvements to their business models with the CDR *(Central Data Repository)*. Banking agencies now have a centralized data storage and data-processing facility that allows them to share data management costs and that facilitates expedited data publication. Reporting institutions no longer wait for the distribution of paper-based, metadata materials such as reporting forms, instructions, or validation criteria because these materials are all available online through the Internet. Institutions can also prevalidate their data by reviewing and eliminating math and logic errors before the data are processed, review data-quality edits online, and provides explanations of edit variances as part of the editing process. In sum, the CDR provides a faster exchange of data between banks and the agencies, allows effective sharing of resources, easily accommodates changes to the Call Reports, and improves the overall quality and timely release of data.[6]

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[5] CFO.com article "Cox Defends XBRL to Senators," 31 July 2007 (www.cfo.com/article.cfm/9571612?f=msdynamics).

[6] Federal Reserve Board, E-Government Act Report, FY 2006, 13 October 2006 (www.federalreserve.gov/generalinfo/foia/egov/egovactreport/2006egovreport.pdf).

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Benefits to Users

Various market participants have referred to the benefits of XBRL reporting as being “better, faster, and cheaper.” Depending on the participants’ roles in the financial reporting chain, these improvements may have very different implications. Our primary focus is on the effects XBRL reporting may have on investors and analysts as it becomes the standard for reporting in the capital markets.

Better: Improved Quantity and Quality of Information

The electronic availability of information should improve the quality, integrity, and quantity of the items used in valuation models. Our 2007 survey clearly shows that no single source, whether company filing or data aggregator, meets the needs of all investors. Currently, analysts manually transcribe information from company reports into their models or purchase the converted data from data aggregators. As XBRL becomes mandated and additional companies begin to file in a comparable format, all classes of users will benefit. Those who now manually transcribe information will have a method for downloading information directly from the filing source, which will reduce the potential for human error in rekeying data and allow additional tagged items to be incorporated into models. Those currently using a data aggregator also will see errors reduced from the transcription of data into their products. Investors will also be able to suggest areas beyond the core financial filings in which the aggregators can expand their collection—to include, for example, business intelligence data and ratios. Potentially, with XBRL reporting, all types of investors—equity, credit, and quant—will be able to improve the quality of their analyses and resulting models.

Faster: Improved Timeliness

With the need to rekey data removed, the evaluation process will become more nimble. In a world where electronic processing of information is the standard, analysts and investors will have additional time to validate and stress-test their models. This redistribution of time from collecting to evaluating information will improve investment decision making, forecasts, and recommendations.

Industry-based information and transparency are components of fair and efficient capital markets. The adoption of XBRL reporting requirements will help level the playing field for all companies in the investment arena by making access to high-quality, uniform data readily available.

The immediacy of electronic input will reduce what has been a forced prioritization in the evaluation process. Investment firms typically analyze large-capitalization companies before they analyze small-cap companies. This characteristic is consistent among firms, whether they manually track information or use data aggregators, with the possible exception of firms that invest solely in small-cap companies. XBRL will remove the need to stagger the review of companies because all the information will be readily downloadable at the time of filing. The analyst or investor will naturally focus on the owned portfolio of companies first, but the timeliness of industry comparisons will improve because the time required to gather information on all companies will be shortened.

Cheaper: Improved Access

It may be difficult to understand the “cheaper” discussion given that much financial information is currently “freely” available over the internet from company reports or high-level aggregator sites, but for the professional investor and analyst, this free information is not entirely free: It comes with the cost of manually entering the data into their models, expanding upon the data from the source filings, or purchasing data from third-party providers (aggregators). As discussed in the other benefits sections, XBRL allows the organization to shift resources from data collection to data analysis. This change may lead to additional opportunities for firms to provide research coverage or to invest in additional companies.

Benefits to Continue to Unfold

The benefits will continue to develop long after the initial implementation of XBRL. The quality and quantity of available information will improve as common tags are developed for nonfinancial items, such as key indicators of operational performance and environmental, social, and governance reporting. Work is under way in many of these areas, but adoption and advancement of these tags will follow only after a mandatory requirement that companies use XBRL to file their base reports.

Over time, we envision that all reports issued by companies will contain tagged information. From required filings to press releases to corporate websites, a standardized and repeatable downloading process will greatly enhance the efficiency of the analytical process.

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Challenges

As can be expected with the development and adoption of a new technology, the transition to full XBRL reporting will offer some obstacles. Several of these challenges relate to the infrastructure upgrades needed for implementation. We are confident that the hardware and software requirements for XBRL reporting will be met by the market, but some process issues could derail the transition, so we will focus on those challenges here.

Lack of Comparability because of Extensions

Fundamental investing depends on the analyst's ability to make comparative analyses among companies and across time periods. Decisions about which stocks to purchase are based on the observations and insights gained from this analysis. Thus, the structured nature of XBRL reporting should provide great benefits in fundamental investing. The use of individual or poorly structured standard extensions, however, could seriously diminish the expected benefits of a move to XBRL reporting. In time, the IFRS taxonomy will have to be complemented by a single, comprehensive set of global industry extensions that have been defined and developed in a consistent manner.

Our principles address the need for a defined framework for the use and development of extensions. On the one hand, although a fixed taxonomy would definitely meet the need of investors for comparability, it could limit the reporting flexibility of companies. We are sensitive to the needs of companies to report both accurately and in a way that conveys their message. On the other hand, allowing the unmonitored use of extensions could create different fields for similar or identical items. Furthermore, with the unrestricted use of customized extensions, automated comparability would be lost and investors would be required (again) to manually reconcile the tagged data. So, a plan is needed to strike a careful balance between the needs of companies and the needs of users of the information.

We believe in a structured approach to the use of extensions. Standard setters have to define standardized extensions where possible (for jurisdictions, industries). Individual extensions should be limited to those rare situations in which an item unique to that firm exists and the information about it does not fit into any of the concepts within the standard taxonomy or extension. We strongly encourage reporting companies to look first for the appropriate tag within the existing taxonomy before turning to a custom extension. If such a tag does not exist, we believe an extension should be allowed but within a well-defined framework so that no extension corrupts other financial statement relationships. Simply put, the automated relationships required by the computer remain: When a custom tag is inserted, the relationships remain intact and the numbers continue to sum up correctly.

Early filings within the U.S. voluntary XBRL program have revealed the negative implications of extensions. For example, our attempt to download initial reports of PepsiCo, Inc., into a standardized template was incomplete because of company-specific fields. The number of extensions by companies using the Committee of European Banking Supervisors' Common Reporting (COREP) and Financial Reporting (FINREP) XBRL taxonomies and the subsequent need to develop a working group for taxonomy harmonization underscore our call for the development of a harmonization plan *prior to* the full launch of XBRL reporting.

Potential Loss of Reliability

Because most taxonomies are based on accounting and reporting standards and may include references to specific portions of those standards, we hope that XBRL will facilitate improvements in audit processes without significant cost increases. Given the flexibility some XBRL reporting frameworks provide as to the choice of elements to use for tagging and the ability to add custom extensions, questions remain about the effect of XBRL on the audit process. To address these questions, we believe regulators should incorporate the tag used as part of the audit.

As our survey results indicate, investment professionals require information that is reliable, comparable, and consistently reported. Some 97 percent of respondents called for including a level of assurance with XBRL-tagged information. In addressing this reliability concern, market participants seek some sort of audit of the tags selected by the company as well as the continued audit of the values reported. Although 80 percent indicated a preference for a review by an independent party, 17 percent were willing to accept certification by management.

In some transitions to XBRL reporting, such as the programs in the United States and Canada, companies provided XBRL reports as a supplement to the current format. As indicated in our principles, we believe regulators should ultimately require a single filing from companies. One benefit of a single filing is that it addresses the concern of incorporating tagged information into the audit. In this filing format, the information contained in the sole document being filed with the regulator should be audited as is done for non-XBRL documents.

Changing Taxonomies

Over time, regulators will adopt new and modified accounting and reporting standards; these changes will affect the elements included in the approved taxonomy. Some countries based their initial development of XBRL on their local accounting standards. As IFRS continues to emerge as the primary set of accounting requirements globally, XBRL programs will transition to incorporate the IFRS-related taxonomy. Vital requirements will be that similar items receive similar tags and that the full set of previously required fields be integrated into the IFRS taxonomy.

To illustrate, in 2007, China updated its published taxonomy to allow for IFRS requirements. Unfortunately, this taxonomy update created problems for some previously developed investor models and the ability of these investors to upload the most current information. Some items simply needed mapping to new IFRS-comparable fields, but other information tagged in previous periods was no longer being tagged because the fields were not available in the updated taxonomy. The result was that data gathering that had previously been done electronically via data vendors had to be done manually.

Some effects on consistency and comparability are to be expected when accounting standards are changed, but regulators should strive to minimize such effects and ensure that no information is lost. The ultimate goal of XBRL reporting should be a taxonomy that faithfully reproduces all the information required by the accounting standards.

In regard to accounting changes, we call attention to the potential challenges associated with the discussion in the United States about the adoption of IFRS for public company reporting. Significant differences exist between the scope of tags included in the IFRS and U.S. GAAP taxonomies. Recent work completed by XBRL US to update the U.S. GAAP taxonomy included adding tags beyond the strict accounting requirements for common corporate reporting and SEC disclosure requirements. These data items represent information useful in the analytical process and should remain available. We urge the regulators to address taxonomy differences prior to finalizing any transition.

In addition to the possible adoption of IFRS for all companies, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) are continuing their work on other changes to accounting reporting. Their joint Financial Statement Presentation[7] project may change the layout of the primary financial statements. Ultimately, all changes to standards should be incorporated into the approved list of tags.

Regulators will also be challenged to align the fields within disparate taxonomies and address the technical differences between them. For example, the updated U.S. GAAP taxonomy incorporates technological features (e.g., the dimensions feature[8]) that are not part of the

[7]A full discussion of the FASB/IASB Financial Statement Presentation project is available on the FASB website (www.fasb.org/project/financial_statement_presentation.shtml).
[8]The dimensions feature defines a method for structuring data along the different axes of a table and is commonly compared to the "pivot table" function in Microsoft Excel. Additional information on the technical specification of dimensions is available on the XBRL International website (www.xbrl.org).

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2008 IFRS taxonomy. Such discrepancies may affect the processing of information tagged differently in different standards. The discussion about the impact of the use of dimensions underscores the need to remain vigilant in future technological adaptations. With appropriate reviews, regulators can ensure, first and foremost, that the XBRL technology remains current without imposing unnecessary complexity.

We recognize the challenges ahead for regulators and understand the difficulties they will encounter as they strive to develop an appropriately flexible structure—one that discourages the need for company-specific extensions and thereby promotes comparability of statements and companies without having to impose a fixed taxonomy. We also understand that because financial reporting standards and practices are fluid, these issues will not necessarily be remedied with the passage of time and increasing familiarity with XBRL. For this reason, our fifth principle highlights the need for appropriate flexibility of infrastructure and protocols to allow for change.

A long-standing goal of the CFA Institute Centre is adoption of a single set of global, high-quality accounting standards, but the XBRL framework will not, in and of itself, produce convergence of accounting standards, and it will not clarify discrepancies in measurement and presentation requirements for financial reports. We are optimistic, however, that the process of implementing an XBRL framework (specifically, the process of establishing suitable taxonomies) will trigger discussion, and possibly resolution, of discrepancies among accounting standards. At a minimum, it will shed light on differences between the requirements of different regulators. Convergence of XBRL taxonomies should occur as standards increasingly converge.

Key Principles

The CFA Institute staff first asked members about their awareness of XBRL in May 2006 through the CFA Institute CEO's e-newsletter question of the month. The responses indicated a lack of broad knowledge of the topic, but those who were aware of XBRL recognized the potential and recommended the addition of an XBRL-based advocacy project. The CFA Institute Centre for Financial Market Integrity followed the recommendation of the survey by initiating a project to explore XBRL and developing a working group of member volunteers.

A key objective of the Centre's XBRL Working Group was to establish expectations about the improvements to be provided by an XBRL reporting framework. Members of the group assessed the potential benefits, costs, and limitations of the new technology and drafted a set of principles intended to guide and inform the progress of the XBRL project and to aid global regulators who will ultimately adopt the XBRL reporting framework.

A June/July 2007 survey of a cross-section of the global CFA Institute membership provided the group with additional feedback. Members of the working group and CFA Institute Centre staff discussed the survey results and draft principles with various regulators and executives in various jurisdictions of XBRL International. This research resulted in the development of the following key principles to improve users' experience with XBRL reporting frameworks:

1. The core taxonomy (or structure of tagging elements) should be predefined by current financial reporting standards, including GAAP[9] and other regulatory disclosure and reporting requirements.
2. Taxonomy extensibility should maintain the level of data comparability as defined by GAAP and other regulatory requirements.
3. Ultimately, companies should use the established XBRL framework to deliver required financial reports to regulators.
4. The general public should have equal access to the XBRL-tagged information.
5. Regulators should develop the necessary infrastructure and protocol to ensure the timely updating of the established XBRL framework as outlined in the preceding four key principles.

Principle 1: Disclosure Neutrality

The core taxonomy (or structure of tagging elements) should be predefined by current financial reporting standards, including GAAP and other regulatory disclosure and reporting requirements.

This concept is the center of any XBRL initiative. Prior to implementing an XBRL reporting framework, each regulator should establish a set of requirements for both the measurement of the reported items and the format of their presentation. With the simple change from a paper to an XBRL reporting framework, these requirements would not change, thus providing the foundation for the taxonomy.

Regulators should determine which taxonomy structure—fixed or flexible—best represents their current practice. As explained previously, a major difference between taxonomy formats is the level of choice and extensibility each offers. Whereas comparability is a given with a fixed taxonomy, the differences in the reporting practices among the numerous industries of publicly traded companies mean that most capital market regulators will operate under a flexible taxonomy format. A flexible taxonomy allows each company to clearly and consistently communicate its operations by reporting the meaningful fields for its situation.

[9]In this use, GAAP applies to the broad application of generally accepted accounting principles and not to any specific national or international accounting standards.

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When asked about the importance of the sections in the annual filings, survey respondents ranked the three primary financial statements—income statement, cash flow statement, and balance sheet—all between 4.6 and 4.7 (with a ranking of 5.0 being the highest). The notes to the financial statements (4.4) and the management discussion and analysis (4.1) also ranked high. The importance given the notes demonstrates that practitioners need the taxonomy to include both the notes as a whole and the discrete values of the disclosure. Additionally, the importance given the MD&A indicates that financial statement users rely on qualitative text to help them understand the nature of the values. The benefits of XBRL reporting for users could be lessened if the discrete values required by the standards are not tagged.

The XBRL Working Group viewed these survey results as a mandate for regulators to consider all parts of required disclosures when developing the core taxonomy. This requirement might be accomplished in phases by setting a core taxonomy, then expanding the core taxonomy and creating supplemental taxonomies for non-GAAP requirements.

Secondary Taxonomy Development. Business reporting extends well beyond the accounting and regulatory requirements, of course. As noted in the previous section, allowing for supplemental taxonomies for items not directly required in accounting disclosures is important in order to capture all of the data investment professionals use in their analytical models. Those models may include information from company press releases and websites to cover the nonfinancial operational data and assumptions made by the company managers.

XBRL tagging also could be developed to report dividend announcements, stock splits, proxy voting, or any other corporate action. The SEC already provides an example of a taxonomy outside financial reporting in its mutual fund filing program for tagging risk and return information in fund prospectuses. The potential for XBRL is limited only by the ability of an organization to properly develop and maintain the list of tags.

Taxonomy Organization. To assist the preparers and users of XBRL-tagged information, the taxonomy should allow multiple options for viewing and sorting the elements. Sorting the elements on a presentation basis or topical basis are only two basic options for regulators to consider. The presentation structure should align elements into groups used for the primary financial statements that are separate from the other required disclosures. Having a format organized by financial statement will be beneficial for the initial conversion to XBRL by the filing company. It will also assist analysts as they align the fields from the taxonomy with their analytical models.

After completion of this first mapping of XBRL elements, the topical approach offers increasing benefits. For companies, new fields become necessary as operations change. A topical sort expedites finding the new elements that align with the company's new operations. For the analyst, the topical view allows ready access to all fields related to an area of interest, regardless of where the elements occur in a presentation format. For example, as the analyst adjusts inventory values to a FIFO format for all companies under review, using the topical format highlights all fields related to inventory and facilitates the selection of the necessary fields for the model.

Sorting elements by the related accounting literature is another possible option. Aligning the disclosures required by a specific accounting statement allows the accounting regulator to easily see what elements need updating if the statement is changed. Other regulators can use this format to ensure that companies file everything required in the standard. Providing a taxonomy that allows for reorganization and that includes various items linked to the elements thus offers multiple possibilities without requiring duplicative efforts in creating and storing elements based on the same requirements.

Principle 2: Limited Extensibility

Taxonomy extensibility should maintain the level of data comparability as defined by GAAP and other regulatory requirements.

The combination of a detailed base taxonomy with strict guidance regarding the use of company-specific fields should lead to the necessary level of consistency in company reports. Strict guidance should enable companies to disclose business activities that are rare or highly specific. It should also provide regulators a way to monitor companies' adherence to the regulators' requirements.

Regulators' polices—such as the SEC's Regulation S-X—establish a minimum level of information to be included in company reports. This minimum level sets the minimum level of comparability in financial reports and should not be lost in an approved XBRL taxonomy. Company-specific additional fields should complement the existing fields, not replace them. The need for a subsequent plan to reduce the use of company-specific additions in the COREP- and FINREP-related filings highlights the importance of a robust initial taxonomy and strict regulator guidance.

In our XBRL awareness survey, respondents gave significant importance to consistency and comparability of financial reports (4.5 and 4.3, respectively). Respondents indicated that these characteristics are especially important when their fundamental investment analyses compare trends over time for a single company or when comparing one company with peer organizations. Without an established level of comparability from XBRL-tagged filings, the benefits of a change in reporting platforms decrease because analysts and investors are still required to update their models manually.

For these reasons, 91 percent of respondents indicated a preference to limit or eliminate the ability of companies to add new fields. Respondents appear concerned about filers potentially using company-specific tags to disguise bad news or otherwise cloud their reporting.

The Process of Extending. One of the positives of company-specific tags is that they can provide investors with the details of rare items. Extensions also allow for identifying new items to be integrated into the base taxonomy.

When a company-specific tag is needed, regulators should be clear in their XBRL guidelines about what is required from such an addition. Analysts need to understand the reasons behind the required new field. Ninety-six percent of our survey respondents believe the regulator should establish an approved process for adding fields. The company adding the item should properly define the new element, including references to the accounting standard being applied, and the changes should expand the base taxonomy, not modify the definitions or calculation relationships of existing fields.

A calculation relationship relates to how a field, including a new field, is included in subtotals and totals in the financial statements. For example, when a company enters into an exotic form of short-term debt that requires an extension, the new field should be listed as a component of total short-term debt on the statement of financial position and a component of total debt in the related note disclosures. A regulatory protocol to this effect would ensure that investors have access to comparable information for items in the base fields—total short-term debt and total debt—across companies and would still get information about any specific debt obligations unique to an individual company.

Mind the Changes. As with any technology, the XBRL fields and infrastructure will continue to evolve. The need for timely and accessible useful information, however, will remain constant. As the XBRL international community and local regulators consider the implementation of new aspects and practices, we advocate that before they adopt a change they conduct appropriate impact assessments, particularly regarding how the changes would affect usability of information. Just as companies are asked to maintain a minimum level of comparability for investors, the regulators should adhere to similar conditions for their standards. As software products become more aligned within the reporting process, the ability to fully test proposed changes may become possible.

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We also encourage regulators to be willing to review decisions for possible reversal if the intended benefits do not outweigh the increased cost or complexity of the change.

Principle 3: Global Initiative

Ultimately, companies should use the established XBRL framework to deliver required financial reports to regulators.

Regulators possess many options when it comes to launching an XBRL reporting platform. They might elect to begin with a voluntary filing initiative, whereby certain companies choose to experience and learn about the new technology. This approach gives all parties a chance to uncover and address potential problems before moving to mandatory XBRL reporting. In another type of conversion, regulators would develop and launch the updated platform with a single mandate for all companies. No matter the path, the goal is eventually to have all companies deliver their financial reports within an XBRL tagging structure.

The benefits of XBRL-tagged reports increase proportionately to the amount of information involved. Investment professionals typically track and invest in many companies in different industries and markets. Investors are not likely to appreciate or use the new reporting system until a significant portion of their portfolio has converted. As XBRL reporting expands, analysts and investors will be increasingly likely to adopt software and services that lessen the possibility of their being at a competitive disadvantage.

Clarity in a Mandate. When given the option to participate in a new program, many parties wait until forced to join in: Trial or introductory programs in the United States and Canada drew little participation because companies did not want to pay for technology changes that might not be required in the future. Because few corporate filers participated, analysts and investors did not demand the tagging of information.

Such a classic "chicken and egg" standoff ends when all parties are directed to adopt the changes and to do so according to a specific timeline. This mandate can come in the form of an additional step to the filing process, as in the SEC's recently passed rule, or as a complete conversion of the filing platform, as was done in China. Either form of mandate initiates the educational process of all participants—company executives, accountants, auditors, and investors—to ensure that the transition goes as planned. A mandate also signals that companies should not delay capital investments in software applications for preparing, validating, and analyzing the new reports.

Who Pays? With a mandate for XBRL reporting, the quantity and accessibility of information available to investors increases greatly. Unfortunately, the reporting companies are less likely to reap such substantive benefits if XBRL reporting is introduced as a supplement to current filings. Should there be any significant increase in cost associated with the migration to XBRL, we expect that—as with all changes to company operating costs—the investor will ultimately bear the cost in the form of decreased future cash flow and lower share prices. We believe, however, that the benefits of lower data costs for the investor should offset increased company costs. Furthermore, companies are likely to gain internal reporting benefits from XBRL implementation. Nevertheless, to minimize costs, we support a single filing platform to avoid the duplicative costs and potential for error that multiple filings—one in traditional format and one in XBRL—might bring.

Assuring Standards of Practice. Questions about the timing of and the need for auditing of the XBRL filings remain. The question of assurance of the XBRL-tagged reports represents a major concern for the investment community. Respondents to our survey clearly support our call for assurance; most advocate auditing by an outside party.

Assurance is vital because investors and analysts use public company reports as the key source of their decision-useful information. We emphasize that regulators must be vigilant to ensure that a changed reporting platform does not diminish the quality of the information.

The move to a single reporting platform would address this concern. If companies are to report their information only once, they are likely to have an easier time modifying their processes to incorporate XBRL. Technology continues to develop for the full integration of XBRL tagging into back-office accounting software. Once that integration is complete, companies will be able to use the flexibility of interactive data in their internal and external reports. Positive effects on the audit process also should occur because the assigned tags will identify the accounting standard that is the basis for a reported item.

Expanding to Other Reports. Just as the taxonomy will expand over time to include fields beyond those covered in the regulatory financial filings, so should the number of corporate reports that incorporate XBRL tagging. Investors and analysts use press releases and websites as information sources for their valuation models. As users become reliant upon regulatory XBRL reports, there will be increased pressure on companies to tag the information in all their public reports.

Providing additional XBRL reports will be easier for, and likely first adopted by, those companies that can integrate the tagging of financial information into their internal processes. If companies continue to tag information after the required financial report is fully prepared, they will find it difficult to expand the use of tagged data beyond the basic regulatory requirements.

Principle 4: Open Source

The general public should have equal access to the XBRL-tagged information.

From a capital market perspective, the role of the securities regulator is, among other things, to maintain and promote a fair and efficient market. To ensure fairness, all investors need equal access to information. Thus, regulators need to allow access to corporate financial information for all investors—whether reports are presented in paper or electronic format. An XBRL platform facilitates this process because all reports have the same filing structure. The flexibility of XBRL-filed information allows each user of the data to access the level of detail that user needs.

Investors will want regulators to make the actual company instance documents available for download to the investors' software applications and to provide a basic converter that transforms the instance document into a readable format. Each regulatory institution will need to provide these services. Because retail and professional investors have different information needs, the process and requirements of the regulator should not benefit one type of investor over another.

Because the XBRL technology is being developed in an open-source environment,[10] the base platform of approved XBRL readers should lead to more advanced applications. These applications may be provided under various free or fee-based structures but should allow analysts to use a single application to access many documents. As companies expand reporting to non-regulatory disclosures, such as websites and press releases, investors will benefit when a single application can process multiple source documents.

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[10] Open source generally refers to an application (and its source code) that is available royalty-free and allows redistribution without any restrictions. The expectation of keeping XBRL technology in this format is that it will promote adoption by regulators, companies, and investors worldwide. This would also encourage the development of robust processing tools, internally by companies using or producing XBRL-tagged information and externally by software companies.

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Principle 5: Regulator Cooperation

Regulators should develop the necessary infrastructure and protocol to ensure the timely updating of the established XBRL framework as outlined in the preceding four key principles.

Certainly, accounting standards and technology will continue to change and improve. Therefore, no XBRL platform or taxonomy should be considered a finished project. All organizations involved in XBRL reporting need to develop a clear, consistent internal control process that will ensure that they are incorporating the current, approved version of standards and technology with each XBRL update. Regulators should also be required to make sure that updates are delivered in a timely and effective manner to all constituents.

The first step is to introduce a process for adding new fields to the approved taxonomy. A full due process review will be paramount in ensuring the continued integrity of the accounting and reporting system. As XBRL becomes the base reporting format, systems need to provide new or modified tags to accommodate changing disclosure rules. These new tags should be developed in conjunction with the new standards so that they are properly vetted during the public review of the proposed standards. If tags are developed after standards are already set, then the implementation may be delayed or the comparability of companies compromised as companies add self-defined tags. Neither a delay nor a loss of comparability meets the information needs of investors.

Together with preparing for change within their own standards, regulators should follow developments on a global scale. As countries move away from independent national standards and toward IFRS, regulators will need to review all reporting requirements outside their national GAAP. The IFRS taxonomy is based solely on the IFRS accounting standards, so companies switching from XBRL-tagging requirements based on national standards should take steps to avoid losing information during the conversion. Some fields will necessarily change, but the quantity and quality of the reporting should not be diminished.

An important element will be that regulators consider and keep up with technology updates. When XBRL International reviews and approves changes to its specifications, any organization operating an XBRL reporting platform will need to consider adoption of those updates.

As XBRL becomes widely used, most investors and analysts will prefer that instance documents from multiple sources be accessible through a common application (as HTML and PDF documents are accessible today). To achieve this level of commonality, technological platforms must be integrated.

With technological advances comes the need for a constant review of historical reports and a process to ensure access to these reports. Just as users can access and read a text-based document from 1999, modifications to a reporting platform should not prevent older instance documents from converting. The use of historical information for trend reports is a standard investment and valuation technique. Any reporting platform and its subsequent upgrades should maintain access to older information.

In Summary

CFA Institute firmly believes in the potential of full XBRL reporting. During the past 20 years, the advent of electronically provided reports has already changed the timing and process of investors' and analysts' information gathering. XBRL stands ready to further the transition to 21st century reporting. The challenges are as real as the benefits, however, and must be addressed. This document is intended to do just that. Our hope is that, eventually, XBRL will become so seamless and so well integrated within the investment process that the very term "XBRL" will become as invisible to investors as HTML is to the standard internet user today.

Appendix A: 2007 XBRL Awareness Survey Snapshot[11]

(Survey Question 5) Which of the following best describes how you obtain companies' financial data/information used in your evaluation and analysis of their performance and valuation, and ultimately, make an investment decision?

Most investment professionals use a combination of primary source documents and third-party suppliers for updating their models.

- 18% Source document only
- 34% Limited third party or majority source document
- 37% Majority third party or limited source document
- 11% Third party only

(Survey Question 6) On a scale of 1 to 5, please indicate the level of importance that each of the following source documents has to your analysis and evaluation of a company's financial condition and performance.

Respondents believe several nonstandard financial reports possess an above-average level of importance. (Response is consistent with previous survey results.)

- Annual reports, such as 10-K filings (4.6 out of 5)
- Interim reports, such as 10-Q filings (4.1 out of 5)
- Quarterly earnings release (3.9 out of 5)
- Prospectus or registration statement for initial public offerings (3.7 out of 5)
- Special event reports, such as 8-K filings (3.5 out of 5)
- Shareholder reports or proxy statements (3.1 out of 5)
- Periodic supplements or fact books (3.1 out of 5)

(Survey Question 7) On a scale of 1 to 5, please indicate the level of importance that each of the following company financial statements has to your financial analysis.

Primary financial statements and related disclosures, including MD&A, are very important sources of information. (Response is consistent with previous survey results.)

- Cash flow statement (4.7 out of 5)
- Income statement (4.7 out of 5)
- Balance sheet (4.6 out of 5)
- Notes to financial statements (4.4 out of 5)
- MD&A (4.1 out of 5)
- Statement of changes in shareholders' equity (3.5 out of 5)

(Survey Question 8) On a scale of 1 to 5, please indicate the level of importance that each of the following data attributes or characteristics has to performing your analysis and evaluation of a company's financial condition and performance?

When it comes to note disclosures, the respondents place a high importance on having discrete (granular) data points. Therefore, having one tag for a particular note disclosure is only an acceptable interim step; the long-term goal is to have each discrete value assigned a tag.

- Reliability: The data and their labels are representative of the required financial reporting standards and definitions (4.7 out of 5)
- Consistency: The data are presented in a similar way and/or format over time (4.5 out of 5)

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[11] The full survey results can be found on the CFA Institute Centre website (www.cfainstitute.org/centre/topics/reporting/xbrl/topline.html).

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- Timeliness: The data are easily accessible from the source document upon its release (4.4 out of 5)
- Comparability: The data are standardized by the nature of the transaction and/or business activity (4.3 out of 5)
- Granularity: The data are disaggregated to show detailed information about the quantity and nature of reported financial statement items—assets, liabilities, revenues, and expenses (4.3 out of 5)

(Survey Question 9) Many countries' security regulators and standard setters are moving toward the utilization of XBRL as an alternative method for companies to prepare their financial reports. Please indicate your level of awareness to the initiatives in your jurisdiction.

The results indicate a need for further education and promotion of XBRL to the CFA Institute membership.

- 9% of respondents indicated they were aware of XBRL and its planned use in financial reporting
- 32% of respondents indicated they were aware of XBRL but not its planned use in financial reporting
- 59% of respondents were *not* aware of XBRL

(Survey Question 11) Based on your understanding of XBRL, indicate how the use of XBRL-tagged interactive data, which are computer readable, will most likely affect your ability to do the following aspects of your review and evaluation of companies' financial reports and other corporate disclosures.

Considering the current state of XBRL systems and available software, respondents expect moderate improvements.

- Make comparisons between companies and/or industries (3.9 out of 5)
- Upload company data into your financial analysis models (3.9 out of 5)
- Analyze companies' performance (3.6 out of 5)
- Access companies' data regarding the level of disaggregation or granularity (3.6 out of 5)
- Access companies' data regarding the level of timeliness (3.5 out of 5)
- Rely on data used in your analysis (3.4 out of 5)

(Survey Question 12) The flexibility of the XBRL structure allows data tags to be created by companies while preparing their financial reports. What should the protocol be to create XBRL data tags for financial reporting purposes?

A combined 91% of respondents indicated a preference for restricting the ability of companies to expand the approved taxonomy.

- 66% of the respondents indicated that companies' ability to extend or add onto the published taxonomy should be limited
- 25% of the respondents indicated that companies should not have the ability to extend or add onto the published taxonomy
- 9% of the respondents indicated that companies' ability to extend or add onto the published taxonomy should not be limited

(Survey Question 13) If companies are permitted to create company-specific XBRL tags, which specification should be used to create such tags?

The desire for consistent and comparable information speaks loudly in the call for guidance in the application of company-specific tags.

- 96% of the respondents indicated that preparers should have an established protocol for creating company-specific tags
- 4% of the respondents indicated that no specific protocol was necessary for creating company-specific tags

(Survey Question 14) What level of assurance is necessary to ensure that the proper XBRL tags are assigned to the reported amounts in accordance with GAAP-defined tags? (For example, a company has tagged the cash amount reported on the balance sheet with the XBRL defined tag for "cash–balance sheet.")

97% of the respondents expect some level of assurance that the proper XBRL tags have been assigned to the reported amounts in accordance with GAAP-defined tags.

- 50% Integrated audit and/or review by an independent auditor/reviewer as to the appropriateness of the XBRL tagging of reported amounts
- 19% Separate audit or review by the independent auditor as to the appropriateness of the XBRL tagging of reported amounts
- 17% Certification by the company's managers as to the appropriateness of the XBRL tagging of reported amounts
- 11% Separate nonaudit by an independent reviewer as to the appropriateness of the XBRL tagging of reported amounts
- 3% No certification by the company's managers or no independent audit/review is necessary

(Survey Question 16) How important is the global convergence of XBRL taxonomies, for example International Financial Reporting Standards (IFRS) and US GAAP, utilizing the same tags for similar financial items, in performing your analysis of companies' financial statements and disclosures and comparing companies' performance?

Respondents placed high importance on the convergence to a global XBRL taxonomy (1 equals not important; 5 equals very important).

- 5 40%
- 4 28%
- 3 19%
- 2 8%
- 1 5%

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Appendix B: Metadata Example from the 2008 U.S. GAAP Taxonomy[12]

Net Income (Loss) Available to Common Stockholders, Basic

Labels

This section of the metadata allows users and software to quickly identify a field. The different roles provide various amounts of information, but the "Standard Label" is what returns when converting the information to its human-readable form. This area is important because it allows companies to easily change the label to match their desired presentation structure without having to add a new field to the taxonomy ("en-US" means U.S. English).

Role	Lang	Label
Standard Label	en-US	Net Income (Loss) Available to Common Stockholders, Basic
Documentation	en-US	Net Income (Loss) Apportioned to Common Stockholders after Extraordinary Items
Total Label	en-US	Net Income (Loss) Available to Common Stockholders, Basic, Total

References

This section of the metadata provides both the preparer and the user of the tagged information with the specific regulation or requirement associated with the tag. This aspect will assist everyone in understanding how accounting policies were applied. These data will not be available for all fields because the U.S. GAAP taxonomy includes tags for fields representing industry best practices and text blocks as well as regulatory required and defined fields. As companies add new fields, it will be important that they provide as many of the reference fields as possible to help users and regulators understand why the field was necessary.

Role	Reference	
Presentation Reference	Name	Statement of Financial Accounting Standard (FAS)
	Number	128
	Paragraph	9
	Publisher	FASB

Properties

This section of the metadata represents much of the technical side of XBRL. The various fields in this section, at first glance, mean little to a human reader of XBRL-tagged information. These fields are extremely important, however, to the software application that converts the information to a human-readable format. The fields in this section note whether the tag represents a number or text, whether the data item is as of a point in time or occurred over a defined time period, and whether the field typically represents an accounting debit or credit value.

[12]The approved U.S. GAAP taxonomy is available for viewing and downloading from the XBRL US website (www.xbrl.us/taxonomies/Pages/default.aspx).

Property	Value
Name	NetIncomeLossAvailableToCommonStockholdersBasic
Namespace	http://xbrl.us/us-gaap/2008-03-31
Data Type	xbrli:monetaryItemType
XBRL Type	monetaryItemType
Substitution Group	xbrli:item
Period Type	Duration
Abstract	False
Nillable	True

Calculations

The information in this section of metadata differs from that in the previous sections. In this area, the information describes how various fields are combined—added or subtracted—to reach another field represented in the report. Although most taxonomies will have some defined calculations, this section also allows companies to incorporate other defined fields or company-specific fields in the calculation. This section provides many benefits, the greatest being clarity about how a company arrives at a particular summation.

The following examples also show how a single calculation can be presented in different parts of the same taxonomy. This aspect further reduces the need to tag the same data multiple times within a single filing because the calculations return the results when the components are provided (*Cr* and *Dr* denote the field as a credit or debit balance).

780000–Disclosure—Earnings per Share

	Net Income (Loss)	*Cr*
–	Preferred Stock Dividends and Other Adjustments	*Dr*
	Net Income (Loss) Available to Common Stockholders, Basic	*Cr*

145000–Statement—Statement of Income, Real Estate Investment Trusts

	Net Income (Loss)	*Cr*
–	Preferred Stock Dividends and Other Adjustments	*Dr*
	Net Income (Loss) Available to Common Stockholders, Basic	*Cr*

144000–Statement—Statement of Income, Real Estate, Excluding REITs

–	Preferred Stock Dividends and Other Adjustments	*Dr*
+	Net Income (Loss)	*Cr*
	Net Income (Loss) Available to Common Stockholders, Basic	*Cr*

In most XBRL reporting platforms, the various sections of the metadata can be modified to incorporate company requirements. These modifications are commonly referred to as "linkbase" changes. In the SEC's interactive data submissions, companies will include several linkbase documents to complement the instance document, such as a calculation linkbase and the label linkbase documents. These supporting files allow the company's extensions and modifications to be properly incorporated through user software applications.

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CFA Institute Centre for Financial Market Integrity

XBRL Guide Staff

Kurt Schacht, CFA
Managing Director
CFA Institute Centre

Patrick Finnegan, CFA
Director
Financial Reporting Policy Group

Glenn Doggett, CFA
Senior Policy Analyst

Vincent Papa, CFA
Senior Policy Analyst

Matthew Waldron
Senior Policy Analyst

CFA Institute XBRL Working Group Members

Tom Larsen, CFA (*Chair*)
Research Manager
Harding Loevner LLC

Andrew Abouchar, CFA
Partner
Tech Capital Partners, Inc.

John Broussard, CFA
Associate Professor
Rutgers University
School of Business–Camden

Brad Fush, CFA
Director, Fixed Income Credit Research
Munder Capital Management

Tom Hillman, CFA
Director
Credit Suisse HOLT

Sam Jones, CFA
Former Chief Investment Officer and
Chief Compliance Officer
Trillium Asset Management Corporation

Nathan Kowalski, CFA
Chief Financial Officer
Anchor Investment Management, Ltd.

Eric Linder, CFA
President and CEO
SavaNet LLC

Chris Montano, CFA
Former Director, Products
Gridstone Research

Chris Dreyer, CFA
Managing Partner
Tertium datur AG

THE AMERICAS

560 Ray C. Hunt Drive
P.O. Box 3668
Charlottesville, VA, USA 22903-0668

(800) 247-8132 PHONE (USA and Canada)
+1 (434) 951-5499 **PHONE**
+1 (434) 951-5262 **FAX**

21st Floor
477 Madison Avenue
New York, NY, USA 10022-5802

ASIA-PACIFIC

Suite 3407
Two Exchange Square
8 Connaught Place, Central
Hong Kong SAR

+852 2868-2700 **PHONE**
+852 8228-8820 **INFO HOTLINE**
+852 2868-9912 **FAX**

EUROPE

10th Floor
One Canada Square
Canary Wharf
London, United Kingdom E14 5AB

Square de Meeûs 38/40
1000 Brussels, Belgium

+44 (0) 20-7531-0751 **PHONE**
+44 (0) 20-7531-0767 **FAX**

info@cfainstitute.org **E-MAIL**

www.cfainstitute.org/centre

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Centre for Financial Market Integrity

9 780935 015911 90000