

1. Query and Analysis of XBRL-based Digital Financial Reports

This section covers the basics of querying and analysis of XBRL-based digital financial reports. In this section we will use a free tool for making use of all that XBRL-based public company financial information submitted to the SEC. We will cover only the basics to give the reader a sense of how to do this.

1.1. *Financial analysis use cases*

These are the general use cases for making use of information reported in XBRL-based public company financial reports provided to the SEC or elsewhere:

- **Analysis of a single report.** Analysis of one financial report from one reporting entity.
- **Time series analysis for a reporting entity.** Two or more financial reports from the same reporting entity.
- **Comparative analysis across reporting entities.** Two or more financial reports from different reporting entities using different subsets of information.
- **Ratio analysis.** An analysis of a single report, a time series analysis, or a comparative analysis using ratios.

1.2. *Repository of machine-readable facts (fact database)*

The purpose of this section is to set your perspective and expectations. Imagine a machine-readable repository of information. Imagine that you want to query that repository and get the value of two concepts for every economic entity in that repository: *Assets* and *Liabilities and Equity*. In order to extract that information from any XBRL-based financial report using a machine-based process the following process needs to be followed:

1. Software **MUST** locate each report you want to query. You want to be sure you have the correct report. For example, if a report is amended, you need the most current report.
2. The report **MUST** be valid XBRL technical syntax. If the technical syntax is invalid, you may or may not get the correct results.
3. Software **MUST** locate the appropriate reporting units (currency). In the case of public company financial reports, 99% of entities report using US Dollars. However, 1% use other currencies as the reporting units.
4. Software **MUST** appropriately identify the root reporting entity in the report, we don't want business segment information. Generally, this is the consolidated entity but it could be a parent holding company or some other accounting entity.
5. Software **MUST** appropriately locate the current balance sheet date. Generally you want information about the current balance sheet data and not the prior balance sheet, both are provided in the same report.

6. Software MUST find the appropriate US GAAP concept used to express *Assets* which is us-gAAP:Assets.
7. Software MUST find appropriate US GAAP concept for *Liabilities and Equity*. This is a little harder because there are multiple possible concepts: us-gAAP:LiabilitiesAndStockholdersEquity or us-gAAP:LiabilitiesAndPartnersCapital.
8. Software MUST check the returned information to assure that it is consistent with what is expected, the business domain rule that “Assets = Liabilities and Equity”.

That is an overview of the workflow/process to obtain a basic set of information from the repository of XBRL-based public company financial filings. And here are the results of that query for every financial report from the SEC EDGAR system of XBRL-based public company financial reports:

xbrl:Entity	Legal Entity	Fiscal Period	Fiscal Year	Assets	Liabilities and Equity	Units	Difference in Value
All CIK numbers	Root economic entity	FY	2001	280	280	iso4217:USD	0
All CIK numbers	Root economic entity	FY	2009	31,586,555,000	31,586,555,000	iso4217:USD	0
All CIK numbers	Root economic entity	FY	2010	23,061,516,000	23,061,516,000	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2010	8,833,200,000	8,833,200,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2010	33,205,444,569,755	33,235,543,477,631	iso4217:USD	30,098,907,876
All CIK numbers	Root economic entity	FY	2011	45,216,467	45,216,467	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2011	110,885,000	110,885,000	iso4217:BRL	0
All CIK numbers	Root economic entity	FY	2011	28,708,716,218	28,708,716,218	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2011	1,226,733,000	1,226,733,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2011	7,938,800,000	7,938,800,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2011	1,565,000	1,565,000	iso4217:ILS	0
All CIK numbers	Root economic entity	FY	2011	46,395,324,314,234	46,165,763,878,111	iso4217:USD	(229,560,436,123)
All CIK numbers	Root economic entity	FY	2012	49,066,850	49,066,850	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2012	32,470,161,238	32,470,161,238	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2012	1,303,349,000	1,303,349,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2012	10,504,300,000	10,504,300,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2012	47,493,211,088,244	47,307,285,874,940	iso4217:USD	(185,925,213,304)
All CIK numbers	Root economic entity	FY	2013	54,642,443	54,642,443	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2013	39,919,462,935	39,919,385,738	iso4217:CAD	(77,197)
All CIK numbers	Root economic entity	FY	2013	13,120,000	13,120,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2013	48,909,115,040,682	48,735,740,980,605	iso4217:USD	(173,374,060,077)
All CIK numbers	Root economic entity	FY	2014	342,493,649,881	342,493,649,881	iso4217:USD	0
				176,531,415,952,227	175,972,655,073,402		(558,760,878,825)
							-0.3%

The results¹ show that most of the balance sheets balance, *Assets = Liabilities and Equity*. Some are inconsistent with what you would expect. The total inconsistency is .3% which is not too bad. However, the information needs to be 100% consistent in order to not get humans involved to figure out exactly what is causing the inconsistencies.

What needs to be considered when querying other facts from a repository works in exactly the same way as this basic query.

¹ Query and results provided by SECXBRL.info which is a commercial software application, see <http://app.secxbri.info/>

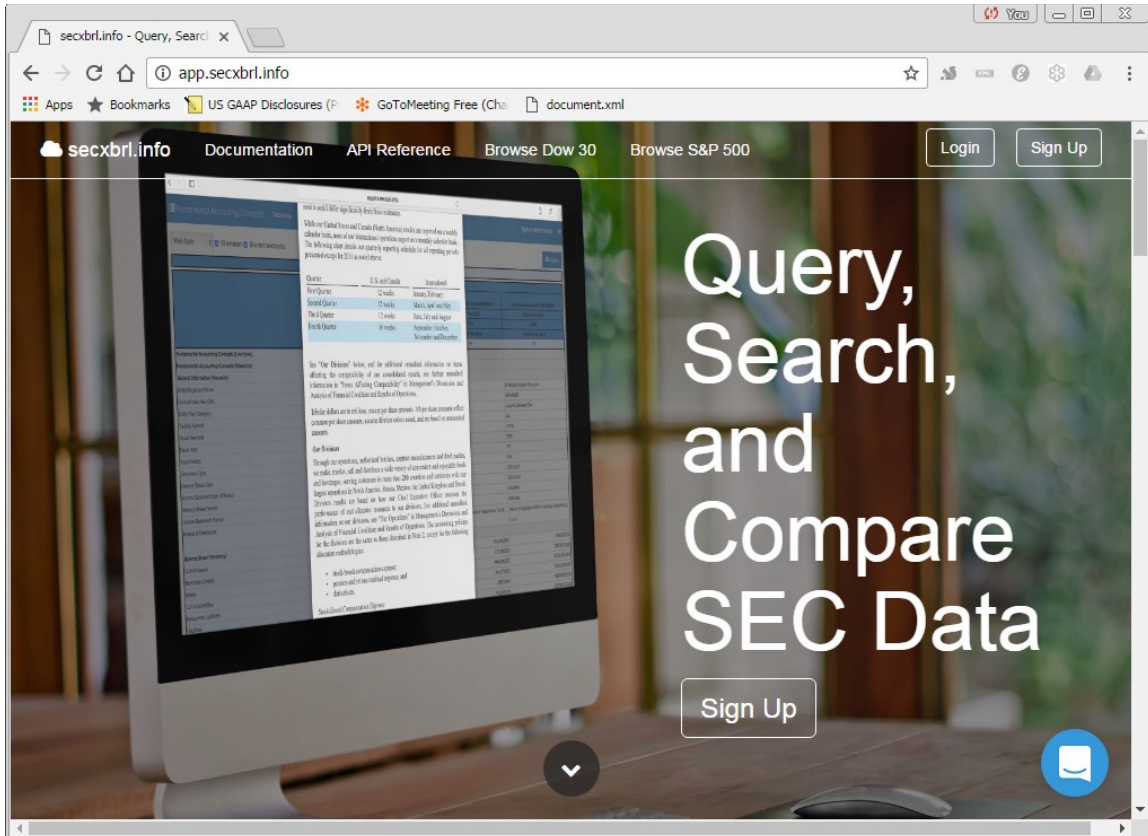
1.3. Query language

As you use the example queries provided in this section, have a look at the syntax of the URLs that are used to execute the queries².

1.4. SECXBRL.info

28msec created and made available a free database of public company financial information. You can find that database at the following URL:

<http://app.secxbri.info/>



There is no need to sign up or sign in. Also, realize that while I will be walking you through examples provided as HTML pages on this information repository web site, the same information that I am showing you can also be retrieved as a web service that returns XML, JSON, CSV, or Excel formatted information.

This ZIP archive contains an Excel workbook application that has a bunch of sample queries which populate Excel spreadsheets:

http://www.xbrl.azurewebsites.net/2016/Library/SECXBRL-2016-12-31_BasicExamples.zip

This reference material is helpful in creating queries:

<http://28msec.github.io/cellstore-pro/api-ref-queries.html>

² API reference, <http://28msec.github.io/cellstore-pro/api-ref-queries.html>

1.4.1. List of entities

If you simply click on the “Browse DOW 30” button on the top of the screen above or if you paste the URL below into your browser, you will get a list of the companies that make up the DOW 30:

http://secxbrl.28.io/v1/_queries/public/api/entities.jq?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&format=html&tag=DOW30

Archives	EIDs	CompanyName	CompanyType	CIK	IsTrust	SIC	SICDescription	SI
Link	http://www.sec.gov/CIK/0000066740	3M CO	Corporation	0000066740	false	3841	SURGICAL & MEDICAL INSTRUMENTS & APPARATUS	10
Link	http://www.sec.gov/CIK/000004962	AMERICAN EXPRESS CO	Corporation	000004962	false	6199	FINANCE SERVICES	7
Link	http://www.sec.gov/CIK/0000732717	AT&T INC.	Corporation	0000732717	false	4813	TELEPHONE COMMUNICATIONS (NO RADIOTELEPHONE)	11
Link	http://www.sec.gov/CIK/0000012927	BOEING CO	Corporation	0000012927	false	3721	AIRCRAFT	5
Link	http://www.sec.gov/CIK/0000018230	CATERPILLAR INC	Corporation	0000018230	false	3531	CONSTRUCTION MACHINERY & EQUIP	10
Link	http://www.sec.gov/CIK/0000093410	CHEVRON CORP	Corporation	0000093410	false	2911	PETROLEUM REFINING	4
Link	http://www.sec.gov/CIK/0000858877	CISCO SYSTEMS, INC.	Corporation	0000858877	false	3576	COMPUTER COMMUNICATIONS EQUIPMENT	3
Link	http://www.sec.gov/CIK/0000021344	COCA COLA CO	Corporation	0000021344	false	2080	BEVERAGES	9
Link	http://www.sec.gov/CIK/0000030554	DUPONT E I DE NEMOURS & CO	Corporation	0000030554	false	2820	PLASTIC MATERIAL, SYNTH RESIN/RUBBER, CELLULOSE (NO GLASS)	6
Link	http://www.sec.gov/CIK/0000034088	EXXON MOBIL CORP	Corporation	0000034088	false	2911	PETROLEUM REFINING	4

If you simply change “format=html” to “format=xml”, XML is returned by the database rather than a formatted HTML page:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Generated by 28.io, for more information see http://www.28.io/xbrl (2017-01-03T20:37:47.233827Z)-->
<!--http://secxbrl.28.io/v1/_queries/public/api/entities.jq?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&format=xml&tag=DOW30-->
<!--Statistics: NumEntities: 30, TotalNumEntities: 13040-->
<Entities>
  <Entity>
    <Archives>http://secxbrl.28.io/v1/\_queries/public/api/archives?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&eid=http%3A%2F%2Fwww.sec.gov%2Fciik%20000066740&format=xml&profile-name=sec&language=en-US&archiveFiscalYear=ALL&archiveFiscalPeriod=ALL</Archives>
    <EIDs>
      <EID>http://www.sec.gov/CIK/0000066740</EID>
    </EIDs>
    <Source>Feed</Source>
    <Profile name="SEC">
      <CompanyName>3M CO</CompanyName>
      <CompanyType>Corporation</CompanyType>
      <CIK>0000066740</CIK>
      <IsTrust>false</IsTrust>
      <SIC>3841</SIC>
      <SICDescription>SURGICAL & MEDICAL INSTRUMENTS & APPARATUS</SICDescription>
      <SICGroup>10</SICGroup>
      <Taxonomy>ci</Taxonomy>
      <Sector>Measuring/Analyzing/Photographic/Control/Medical Instruments</Sector>
    </Profile>
    <Tickers>
      <Tickers>mmm</Tickers>
    </Tickers>
    <Tags>
      <Tag>FORTUNE100</Tag>
      <Tag>DOW30</Tag>
      <Tag>RUSSELL1000</Tag>
      <Tag>SP500</Tag>
    </Tags>
    <EntityName>3M CO</EntityName>
    <EntityRegistrantName>3M CO</EntityRegistrantName>
  </Entity>
  <Entity>
    <Archives>http://secxbrl.28.io/v1/\_queries/public/api/archives?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&eid=http%3A%2F%2Fwww.sec.gov%2Fciik%20000004962&format=xml&profile-name=sec&language=en-US&archiveFiscalYear=ALL&archiveFiscalPeriod=ALL</Archives>
```

1.4.2. List of reports for an entity

If you click on the “Archives” column on the far left “Link” or use the URL below, you can get a list of reports that were submitted to the SEC by the entity:

http://secxbrl.28.io/v1/_queries/public/api/archives?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&eid=http%3A%2F%2Fwww.sec.gov%2FCIK%200000066740&format=html&profile-name=sec&language=en-US&archiveFiscalYear=ALL&archiveFiscalPeriod=ALL

AID	Entity	Components	Sections	NumSections	NumFacts	NumFootnotes	NumReportElements	NumHypercubes	NumDimensions	NumMembers	NumLineItems
0001558370-16-007105	http://www.sec.gov/CIK/0000066740	Link	Link	74	1282	0	883	23	28	115	24
0001558370-16-008059	http://www.sec.gov/CIK/0000066740	Link	Link	111	2713	0	1160	31	39	226	32
0001558370-16-005213	http://www.sec.gov/CIK/0000066740	Link	Link	74	940	0	649	23	28	118	23
0001558370-16-003182	http://www.sec.gov/CIK/0000066740	Link	Link	111	2711	0	1159	31	39	226	32
0001558370-15-002024	http://www.sec.gov/CIK/0000066740	Link	Link	70	1344	0	655	22	28	137	22
0001104859-15-054810	http://www.sec.gov/CIK/0000066740	Link	Link	105	1497	0	1285	29	37	300	30
0001104859-15-032226	http://www.sec.gov/CIK/0000066740	Link	Link	105	1104	0	1279	29	37	298	30
0001104859-15-009580	http://www.sec.gov/CIK/0000066740	Link	Link	105	3393	0	1270	29	37	294	30
0001104859-14-075312	http://www.sec.gov/CIK/0000066740	Link	Link	105	1592	0	1237	29	35	283	30
0001104859-14-055558	http://www.sec.gov/CIK/0000066740	Link	Link	104	1527	0	1211	29	35	281	29
0001104859-14-039325	http://www.sec.gov/CIK/0000066740	Link	Link	104	3508	0	1193	29	35	275	29
0001104859-14-033499	http://www.sec.gov/CIK/0000066740	Link	Link	104	1097	0	1195	29	35	275	29
0001104859-14-009773	http://www.sec.gov/CIK/0000066740	Link	Link	104	3508	0	1193	29	35	275	29
0001104859-13-079583	http://www.sec.gov/CIK/0000066740	Link	Link	71	1499	0	820	25	27	185	25
0001104859-13-058981	http://www.sec.gov/CIK/0000066740	Link	Link	71	1478	0	838	25	28	186	25
0001104859-13-042408	http://www.sec.gov/CIK/0000066740	Link	Link	104	3595	0	1318	30	34	300	29
0001104859-13-038580	http://www.sec.gov/CIK/0000066740	Link	Link	89	1099	0	829	24	28	180	24

1.4.3. List of reports for an entity

If you click on the “Components” column the “Link” will provide you with a list of components within the report, or you can use the URL below:

http://secxbrl.28.io/v1/_queries/public/api/components?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&aid=0001558370-16-007105&format=html&profile-name=sec&validate=true&language=en-US

Archive	Section	Hypercut
0001558370-16-007105	00000 - Document - Document and Entity Information	Implied Table [Table]
0001558370-16-007105	00100 - Statement - Consolidated Statement of Income	Implied Table [Table]
0001558370-16-007105	00200 - Statement - Consolidated Statement of Comprehensive Income	Implied Table [Table]
0001558370-16-007105	00300 - Statement - Consolidated Balance Sheet	Implied Table [Table]
0001558370-16-007105	00305 - Statement - Consolidated Balance Sheet (Parenthetical)	Implied Table [Table]
0001558370-16-007105	00500 - Statement - Consolidated Statement of Cash Flows	Implied Table [Table]
0001558370-16-007105	10101 - Disclosure - Significant Accounting Policies	Implied Table [Table]
0001558370-16-007105	10201 - Disclosure - Acquisitions and Divestitures	Implied Table [Table]
0001558370-16-007105	10301 - Disclosure - Goodwill and Intangible Assets	Implied Table [Table]
0001558370-16-007105	10401 - Disclosure - Restructuring Actions	Implied Table [Table]
0001558370-16-007105	10801 - Disclosure - Supplemental Equity and Comprehensive Income Information	Implied Table [Table]
0001558370-16-007105	10801 - Disclosure - Income Taxes	Implied Table [Table]
0001558370-16-007105	10901 - Disclosure - Marketable Securities	Implied Table [Table]
0001558370-16-007105	11001 - Disclosure - Long-Term Debt and Short-Term Borrowings	Implied Table [Table]
0001558370-16-007105	11101 - Disclosure - Pension and Postretirement Benefit Plans	Implied Table [Table]
0001558370-16-007105	11201 - Disclosure - Derivatives	Implied Table [Table]
0001558370-16-007105	11301 - Disclosure - Fair Value Measurements	Implied Table [Table]

1.4.4. Rendering of a component

If you click on the “Spreadsheet” column the “Link” will provide you a rendering of the report component which you selected, or again you can use the URL below:

http://secxbrl.28.io/v1/_queries/public/api/spreadsheet-for-component?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&aid=0001558370-16-007105&format=html§ion=http%3A%2F%2Fwww.mmm.com%2Frole%2FStatementConsolidatedStatementOfIncome&hypercube=xbrl28%3AImpliedTable&profile-name=sec&eliminate=true&validate=true&language=en-US

Consolidated Statement of Income	Period [Axis]			
	From January 1, 2015 to June 30, 2015	From April 1, 2015 to June 30, 2015	From January 1, 2016 to June 30, 2016	From April 1, 2016 to June 30, 2016
Net sales	15,264,000,000	7,686,000,000	15,071,000,000	7,662,000,000
Operating expenses				
Cost of sales	7,679,000,000	3,858,000,000	7,477,000,000	3,799,000,000
Selling, general and administrative expenses	3,114,000,000	1,550,000,000	3,053,000,000	1,560,000,000
Research, development and related expenses	901,000,000	438,000,000	887,000,000	437,000,000
Total operating expenses	11,694,000,000	5,846,000,000	11,417,000,000	5,796,000,000
Operating income	3,570,000,000	1,840,000,000	3,654,000,000	1,866,000,000
Interest expense and income				
Interest expense	66,000,000	35,000,000	85,000,000	38,000,000
Interest income	11,000,000	7,000,000	12,000,000	7,000,000
Total interest expense - net	-55,000,000	-28,000,000	-73,000,000	-31,000,000
Income before income taxes	3,515,000,000	1,812,000,000	3,581,000,000	1,835,000,000
Provision for income taxes	1,011,000,000	509,000,000	1,010,000,000	542,000,000
Net income including noncontrolling interest	2,504,000,000	1,303,000,000	2,571,000,000	1,293,000,000
Less: Net income attributable to noncontrolling interest	5,000,000	3,000,000	5,000,000	2,000,000
Net income attributable to 3M	2,499,000,000	1,300,000,000	2,566,000,000	1,291,000,000
Weighted average 3M common shares outstanding - basic (in shares)	633,800,000	631,300,000	607,200,000	606,900,000
Earnings per share attributable to 3M common shareholders - basic (in dollars per share)	3.94	2.06	4.23	2.13
Weighted average 3M common shares outstanding - diluted (in shares)	646,100,000	643,000,000	621,100,000	620,900,000
Earnings per share attributable to 3M common shareholders - diluted (in dollars per share)	3.87	2.02	4.13	2.08
Cash dividends paid per 3M common share (in dollars per share)	2.05	1.025	2.22	1.11

1.4.5. Normalized comparison of information for entity across periods

Using the query string below you can do a normalized comparison of information for an entity across multiple periods:

http://secxbrl.28.io/v1/_queries/public/api/spreadsheet-for-report.iq?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&report=IncomeStatementSingleStep_Special2&fiscalYear=2015&fiscalYear=2014&fiscalYear=2013&fiscalYear=2012&fiscalYear=2011&fiscalPeriod=FY&validate=true&format-indent=yes&labels=false&format=html&cik=0000066740

201.6-Income Statement, Single Step, With Operating Income, Special 2 (Costs and Expenses) EXPORT ▾

Component: (Network and Table)					
Network	201.6-Income Statement, Single Step, With Operating Income, Special 2 (Costs and Expenses) <small>(http://www.xbrl.28.io/2014/Prototype/fac/IncomeStatementSingleStep_Special2)</small>				
Table	Income Statement, Single Step [Table]				
Unit [Axis]	USD				
Fiscal Period Type [Axis]	YTD, Instant				
Income Statement [Line Items]	Fiscal Year [Axis]				
	2011	2012	2013	2014	2015
	Fiscal Period [Axis]	Fiscal Period [Axis]	Fiscal Period [Axis]	Fiscal Period [Axis]	Fiscal Period [Axis]
	FY	FY	FY	FY	FY
	Reporting Entity [Axis]	Reporting Entity [Axis]	Reporting Entity [Axis]	Reporting Entity [Axis]	Reporting Entity [Axis]
	3M CO (66740)	3M CO (66740)	3M CO (66740)	3M CO (66740)	3M CO (66740)
Net Income (Loss) [Roll Up]					
Income (Loss) from Continuing Operations After Tax [Roll Up]					
Income (Loss) from Continuing Operations Before Tax [Roll Up]					
Operating Income (Loss) [Roll Up]					
Revenues	29,611,000,000	29,904,000,000	30,871,000,000	31,821,000,000	30,274,000,000
Costs and Expenses	23,433,000,000	23,421,000,000	24,205,000,000	24,686,000,000	23,328,000,000
Operating Income (Loss)	6,178,000,000	6,483,000,000	6,666,000,000	7,135,000,000	6,946,000,000
Nonoperating Income (Loss) Plus Interest and Debt Expense Plus Income (Loss) from Equity Method Investments	-147,000,000	-132,000,000	-104,000,000	-109,000,000	-123,000,000
Income (Loss) from Continuing Operations Before Tax	6,031,000,000	6,351,000,000	6,562,000,000	7,026,000,000	6,823,000,000
Income Tax Expense (Benefit)	1,674,000,000	1,840,000,000	1,841,000,000	2,028,000,000	1,982,000,000
Income (Loss) from Continuing Operations After Tax	4,357,000,000	4,511,000,000	4,721,000,000	4,998,000,000	4,841,000,000
Income (Loss) from Discontinued Operations, Net of Tax	0	0	0	0	0
Extraordinary Items of Income (Expense), Net of Tax	0	0	0	0	0
Net Income (Loss)	4,357,000,000	4,511,000,000	4,721,000,000	4,998,000,000	4,841,000,000

1.4.6. Normalized comparison of information across entities for a period

Using the query string below you can do a normalized comparison of information across entities for a period:

http://secxbrl.28.io/v1/_queries/public/api/spreadsheet-for-report.iq?token=c3049752-4d35-43da-82a2-f89f1b06f7a4&report=IncomeStatementSingleStep_Special2&fiscalYear=2015&fiscalPeriod=FY&validate=true&format-indent=yes&labels=false&format=html&cik=0000066740&cik=27904&cik=1048911&cik=934612&cik=100885&cik=15511&cik=70318&cik=92380&cik=230211&cik=18926

201.6-Income Statement, Single Step, With Operating Income, Special 2 (Costs and Expenses)										
Component: (Network and Table)										
Network	201.6-Income Statement, Single Step, With Operating Income, Special 2 (Costs and Expenses)									
Table	Income Statement, Single Step (Table)									
Unit (Axis)	USD									
Fiscal Period Type (Axis)	YTD, Instant									
Fiscal Year (Axis)										
2015										
Fiscal Period (Axis)										
FY										
Reporting Entity (Axis)										
	3M CO (66740)	BNSF RAILWAY CO (15511)	BURLINGTON NORTHERN SANTA FE LLC (934612)	CENTURYLINK, INC (18926)	DELTA AIR LINES INC /DE/ (27904)	FEDERAL EXPRESS CORP (230211)	FEDEX CORP (1048911)	SOUTHWEST AIRLINES CO (92380)	TENET HEALTHCARE CORP (70318)	UNION PACIFIC CORP (100885)
Net Income (Loss) [Roll Up]										
Income (Loss) from Continuing Operations After Tax [Roll Up]										
Income (Loss) from Continuing Operations Before Tax [Roll Up]										
Operating Income (Loss) [Roll Up]										
Revenues	30,274,000,000	21,401,000,000	21,967,000,000	17,900,000,000	40,704,000,000	26,094,000,000	47,453,000,000	19,820,000,000	20,111,000,000	21,813,000,000
Costs and Expenses	23,328,000,000	13,634,000,000	14,243,000,000	15,295,000,000	32,902,000,000	25,775,000,000	45,586,000,000	15,704,000,000	19,055,000,000	13,761,000,000
Operating Income (Loss)	6,946,000,000	7,767,000,000	7,724,000,000	2,605,000,000	7,802,000,000	919,000,000	1,867,000,000	-1,116,000,000	1,056,000,000	8,052,000,000
Nonoperating Income (Loss) Plus Interest and Debt Expense Plus Income (Loss) from Equity Method Investments	-123,000,000	76,000,000	-949,000,000	-1,289,000,000	-645,000,000	-140,000,000	-240,000,000	-637,000,000	-912,000,000	-396,000,000
Income (Loss) from Continuing Operations Before Tax	6,823,000,000	7,843,000,000	6,775,000,000	1,316,000,000	7,157,000,000	179,000,000	1,627,000,000	3,479,000,000	144,000,000	7,656,000,000
Income Tax Expense (Benefit)	1,982,000,000	2,928,000,000	2,527,000,000	438,000,000	2,631,000,000	35,000,000	577,000,000	1,298,000,000	68,000,000	2,884,000,000
Income (Loss) from Continuing Operations After Tax	4,841,000,000	4,915,000,000	4,248,000,000	878,000,000	4,526,000,000	144,000,000	1,050,000,000	2,181,000,000	76,000,000	4,772,000,000
Income (Loss) from Discontinued Operations, Net of Tax	0	0	0	0	0	0	0	0	2,000,000	0
Extraordinary Items of Income (Expense), Net of Tax	0	0	0	0	0	0	0	0	0	0
Net Income (Loss)	4,841,000,000	4,915,000,000	4,248,000,000	878,000,000	4,526,000,000	144,000,000	1,050,000,000	2,181,000,000	78,000,000	4,772,000,000

HINT: You can compare as many entities as you want this way. I have done up to about 200 entities!

1.5. Commercially available analysis products

There are many different commercial software applications which make use of XBRL-based financial information reported by public companies to the SEC and available from the EDGAR system. These software applications take different approaches and different things can be learned from different applications.

Querying an XBRL instance document and the related taxonomy is possible, but it is not recommended because the information is not structured for meaning, it is simply structured as XBRL technical syntax. This makes querying information significantly more challenging.

If you do want to explore extracting information directly from an XBRL instance, this ZIP archive contains an Excel based application that you can reverse engineer:

http://xbrlsite.azurewebsites.net/2016/Analysis/InterestBasedRevenues/Analysis_IN_TBX-BSU-CF1-ISS-IEMIX-OILN.zip

1.5.1.28msec SECXBRL.info

As mentioned, 28msec³ provides a free repository of public company financial information reported by public companies to the SEC via its SECXBRL.info repository⁴. Financial information is available for the DOW 30 companies with no signup at all. You can sign up for free and get access to all reported information. An API is provided. For those willing to roll up their sleeves and get their hands a little dirty, there is a lot that can be learned about where digital financial reporting and more generally digital business reporting is going.

1.5.2.XBRL Cloud

XBRL Cloud mainly focuses on validation services for public companies that provide XBRL-based financial reports to the SEC⁵. However, XBRL Cloud offers an API also. That API, the EDGAR Report Information Web Service⁶, is unfortunately not publically available. But, the API is rather inexpensive. If you are serious about learning about digital financial reporting, paying for the API is worth the price.

XBRL Cloud provides some of the best renderings of XBRL-based information.

1.5.3.FinDynamics XBRL Analyst

XBRL Analyst is described as “XBRLAnalyst delivers real-time financial data to Excel” by its creator FinDynamics⁷. XBRLAnalyst is an Excel plugin. A free trial is available which allows you to explore the software before you purchase it. An API is also available.

³ 28msec, <http://www.28.io/>

⁴ SECXBRL.info, <http://app.secxbri.info/>

⁵ XBRL Cloud EDGAR Dashboard, <https://edgardashboard.xbrlcloud.com/edgar-dashboard/>

⁶ XBRL Cloud Edgar Report Information Web Service, <https://www.xbrlcloud.com/home/edgar-report-information/eridev.html>

⁷ FinDynamics, <https://findynamics.com/>