



CASE STUDY

Comprehensive US Government 10-K is Published with iXBRL for the First Time

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In response to the COVID-19 pandemic, the U.S. government is spending \$2 trillion on federal support through the CARES Act. However, the current form of reporting on government spending is inconsistent, inaccessible and ultimately of limited use.

The promise of applying structured data, tagged in iXBRL, is the ability to leverage machine learning and AI to measure funding and its efficacy. So, when future crises arrive, whether financial, environmental or health-related, our decision on how to allocate resources can be data-driven and evidence-based.

The good news is we are now one major step closer to that capability. That's because on April 15, 2020, USAFacts made public its first-ever, full-length 10-K tagged in iXBRL. The complicated financial workings of the US public sector have just become more transparent and accessible to anyone with an Internet connection.

While public companies are now comfortable publishing 10-Ks and 10-Qs in a machine-readable, iXBRL format, governments have been far slower at reporting their own financials in data rather than documents. The financial activities of governments at all levels—from the federal to the state to small municipal and local governments—have therefore remained murky. Information has been available in PDFs and sometimes in handwritten documents after a one-to-two-year lag.

In collaboration with DFIN and XBRL US, USAFacts is hoping to change all that. USAFacts just completed a ground-breaking project to make government data widely available by presenting its 2019 10-K in a machine-readable format. Specifically, data within the 10-K is being tagged in iXBRL using elements of the US GAAP taxonomy and portions of the demonstration release of the Comprehensive Annual Financial Report (CAFR) taxonomy, which was designed exclusively for state and local governments interested in reporting financial data.

“One excellent way to help with credibility and promote data standards projects is to develop

pilots or case studies on early adopters,” says Craig Clay, President of Global Capital Markets at DFIN.

“Now that USAFacts has taken this bold first step in demonstrating how government data can be tagged in iXBRL, we are hoping that more governments, small and large, will consider doing the same.”

Why Provide Machine-Readable Government Data?

When former Microsoft CEO Steve Ballmer decided to deepen his commitment to philanthropy, he began by researching how the government raises and spends money. He soon realized that this data wasn't easy to come by. Ballmer hired financial analysts and researchers to gather the data he needed, and then issued a report to share the findings. Out of this undertaking was born USAFacts, a not-for-profit, nonpartisan civic initiative providing comprehensive and understandable government data, including accessible analysis on US spending and outcomes with the goal of grounding public debates in facts. In 2017, USAFacts began publishing a 10-K for government financials—much as public companies have done for decades.

	5	6	7	8	9
Operating income	225.5	225.5	225.5	225.5	225.5
Operating expense	(423.7)	(423.7)	(423.7)	(423.7)	(423.7)
Operating loss	(198.2)	(198.2)	(198.2)	(198.2)	(198.2)
Other income	5.1	5.1	5.1	5.1	5.1
Other expense	(91.6)	(91.6)	(91.6)	(91.6)	(91.6)
Net income	(184.7)	(184.7)	(184.7)	(184.7)	(184.7)
Other income	6.4	6.4	6.4	6.4	6.4
Other expense	(9.0)	(9.0)	(9.0)	(9.0)	(9.0)
Net income	(187.3)	(187.3)	(187.3)	(187.3)	(187.3)
Other income	191.1	191.1	191.1	191.1	191.1
Other expense	(62.5)	(62.5)	(62.5)	(62.5)	(62.5)
Net income	128.6	128.6	128.6	128.6	128.6
Other income	46.4	46.4	46.4	46.4	46.4
Other expense	(10.2)	(10.2)	(10.2)	(10.2)	(10.2)
Net income	164.8	164.8	164.8	164.8	164.8
Other income	175.4	175.4	175.4	175.4	175.4
Other expense	(31.9)	(31.9)	(31.9)	(31.9)	(31.9)
Net income	143.5	143.5	143.5	143.5	143.5

The decision to publish a 10-K for government spending “starts with the belief that government data should be readily accessible to the public,” says Poppy MacDonald, President of USAFacts. Tagging the 10-K in iXBRL, she says, represents a leap forward: “Structured data will improve speed, reliability, and consistency, and make people’s lives easier when it comes to accessing data.” She continues: “The more accessible we can make this information, the better.”

What iXBRL Does for Reporting?

iXBRL, or Inline XBRL, is an open standard that enables a single document to provide both human-readable and structured, machine-readable data. iXBRL is used by millions of companies around the world to prepare financial statements in a format that provides the structured data that regulators and analysts require, while allowing preparers to retain full control over the layout and presentation of their report.

Timeliness is a prime benefit of iXBRL tagging. Today, over 95,000 local and state entities produce financial information that USAFacts wants reflected in its 10-K. Because the information is so hard to come by, though, the 2019 10-K is built largely on financial data from 2017. Were the information to be machine readable and more easily accessible, then the two-year reporting lag could be eliminated.

John Truzzolino, Director of Business Solutions for DFIN, is convinced that iXBRL can bring a host of benefits in addition to timeliness. “Much of the data collected by USAFacts today is not in standardized formats,” he says. “If more state and local governments were to adopt tagging of their financial reporting, this might elevate the quality and usefulness for the data, as well as make the data more complete and transparent.”

USAFacts and DFIN are optimistic that some state and local governments will use the tagged 10-K from USAFacts as a roadmap for how they might build iXBRL pilots of their own.

USAFacts’ iXBRL 10-K coincides with the ongoing evolution of government reporting from separate documents to structured data. In the past few years, the SEC, FDIC, and FERC have all made pioneering moves to collect structured data.

Other government advances are also afoot. Take, for instance, the passage of the Grant Reporting Efficiency and Agreements Transparency (GREAT) Act, which was signed into law on December 30, 2019. The GREAT Act requires that a standardized structure for data be developed and used for recipients of federal grants and cooperative agreements. This act will improve oversight of federal funding and increase transparency about the use of funds.

In addition, on January 2, 2019, the Foundations for Evidence-Based Policymaking Act and the OPEN Government Data Act were passed. The first is a law establishing processes for the federal government to modernize its data management practices. The second requires federal agencies to publish their information online as open data, using standardized, and machine-readable formats.

Even though regulators are increasingly interested in presenting data in more tech-savvy ways, state and local governments have been slow to change entrenched practices. Michelle Savage, Vice President at XBRL US, notes that “a lot of government data is in paper-based documents like PDFs, and so the data has to be pulled out of those documents and rekeyed before any kind of analysis can be done.” She continues: “As a result, either analysis doesn’t get done or it’s done in a much less robust way, and so a [government researcher might] collect the data on five municipalities, instead of 50.”

Another reason why change has come slowly is that there are so many different government entities with fragmented practices, and no single entity has jurisdiction over them all.

Regulatory and Legislative Activity Timeline

2018

MARCH	DOE* Orange Button for solar financing standards published	Florida Law HB 1073 passed, requires XBRL data standard for all municipal reporting
APRIL		
MAY		
JUNE	SEC transitions public companies to Inline XBRL	SEC approves IFRS standards for foreign private issuers
...		
DEC	GREAT Act* passed House (115 th Congress)	

2019

JAN	GREAT Act* re-introduced, passes House	OPEN Government Data Act* signed into law	
FEB			
MARCH	FERC* publishes RFP for utilities standards	SEC* proposes standards for life insurance & variable annuity companies	SEC* proposes standards for business development companies and closed end funds
APRIL	SEC* mandates XBRL for public company cover pages		
...			
SEPT	Financial Transparency Act* reintroduced		
...			
DEC	GREAT Act* signed into law	FERC* starts taxonomy public review for utilities reporting	

2020

JAN		
FEB	Illinois passes House Resolution 703 encouraging XBRL use by governments	SEC* mandates XBRL for variable annuity companies
MARCH		

Regulatory
 Legislation

***NOTES:**

*DOE = Department of Energy

*SEC = Securities and Exchange Commission

*GREAT Act (Grants Reporting Efficiency and Transparency) for grants data as well as Single Audit Reports for grantees and municipalities getting \$750K+ in Federal assistance

*OPEN (Open, Public, Electronic and Necessary) Govt Act requires federal agencies to publish information online, in machine-readable format (Title II of Foundations for Evidence-Based Policymaking Act)

*FERC = Federal Energy Regulatory Commission

*Financial Transparency Act (Requires 8 government agencies to collect data from financial institutions in standardized format)

One standard bearer has been Florida. In March 2018, Governor Rick Scott signed HB 1073, legislation that establishes the Florida Open Financial Statement System. This enables the state CFO to build XBRL taxonomies for state, county, municipal, and special district financial filings.

Marc Joffe, Chair of the Standard Government Reporting Working Group within XBRL US and a Senior Policy Analyst for the Reason Foundation, points out that Will County in Illinois has published its CAFR in iXBRL. Joffe says that other entities are ready to publish CAFRs in machine-readable formats, while at least one state is interested in publishing a subset of its CAFR using iXBRL.

Many possibilities will unfold once machine-readable government spending data is readily available. Mayors, for instance, might be able to compare the financials of their cities versus other cities in the county, state, and nation. Say, for instance, a city wants to construct a new transit system. When other cities report in iXBRL, finding out how other local governments have structured this investment will be both possible—and even easy to accomplish.

Or say a local government needs to make budget cuts and is choosing between reducing the budget for the police department, the fire department, or the local school system. Finding out how cutting the school budget has affected literacy rates in similar towns might be a key piece of information for making a wise decision.

What is USAFacts?

Where would you turn if you wanted to know how much college costs rose in the same time period as government spending on higher education declined?

Before the arrival of USAFacts, a not-for-profit, nonpartisan civic initiative, locating the numbers would have meant an enormous amount of work. Today, the answers can be found within seconds simply by accessing the organization’s 2019 10-K. (When adjusted for inflation, the average annual cost of undergraduate education increased 25 percent between 2007 and 2017, while state and local government spending on higher education increased \$6 billion, or 51 percent.)

USAFacts, which has as its tagline “our nation, in numbers,” aims to provide accessible analysis on US spending and outcomes as a way “to ground public debates in facts.”

Preparing the USAFacts 10-K

As a prelude to tagging the USAFacts 10-K in iXBRL, DFIN created an iXBRL template for the prior year’s 10-K. Creating the template helped DFIN familiarize itself with the scope of the project and address some of the tagging hurdles ahead. This prep work was important given that the 2019 10-K runs more than 200 pages (though only the financials and the notes are tagged).

The screenshot shows the USAFacts website interface. At the top, there is a navigation bar with 'Menu', 'Sections', 'Search Facts', 'Data', 'Tags', and 'More Filters'. The search results show 'PART II Item 8' and a table of financial data. A pop-up window titled 'Attributes' is open, showing details for 'Cafr Revenue From Taxes'.

	2017	2016	2012	2007
Tag	usaf:CafrRevenueFromTaxes			
Fact	4,874,000,000,000			
Period	12 months ending 09/30/2017			
Measure	USD			
Scale	Billions			
Decimals	Billions			
Balance	Credit			

	2017	2016	2012	2007
Tax revenues	\$ 4,874	\$ 4,748	\$ 3,766	\$ 3,831
Non-tax revenues	723	340	302	650
Total revenue	5,597	5,087	4,068	4,481
Transfer payments to individuals other than personnel and subsidies	2,933	2,812	2,344	1,710
Compensation for personnel past and present	1,623	1,574	1,432	1,229
Payments to others for goods and services	677	690	767	628
Capital expenditures	334	497	514	465
Net interest paid	333	313	295	251
Other income	(30)	(24)	(37)	(10)
Total expenditures	5,070	5,860	5,315	4,373
Net surplus (deficit)	\$ (473)	\$ (763)	\$ (1,246)	\$ 208

The next step for tagging the USAFacts 10-K in iXBRL was determining which taxonomy to use.

The availability of the USAFacts government financial statements in machine- and human-readable format, as shown below, vastly improves the usability of the statements. The draft CAFR taxonomy was developed as a starting point for government oversight bodies interested in adopting standards.

DFIN, XBRL US, and USAFacts decided to use elements from two separate iXBRL taxonomies: the latest US GAAP taxonomy and the demonstration release taxonomy for selected portions of the Comprehensive Annual Financial Report, or CAFR, which implements standards promulgated by the Government Accounting Standards Board (GASB).

The US GAAP taxonomy was designed for public company use and so it only meets some of the tagging challenges presented by USAFacts. Choosing to use US GAAP in tandem with CAFR made sense given that, while the CAFR taxonomy is still quite new, GASB-compliant reporting is common for US state and local governments that publish audited financial statements. Currently, 30,000 state and local governments produce audited financial statements each year, and while not all of them follow GASB standards, many do.

DFIN tagged each item by seeking a match first within the CAFR taxonomy, selecting a US GAAP element only when there was no suitable option in CAFR. To find out which taxonomy was used for any given tag, users can click on a number and the tag will be preceded either by “CAFR” or by our extension taxonomy USAF.

The first round of tagging was completed in late December 2019, and the 10-K draft was sent to Paige Hamack, a consultant to USAFacts, for feedback.

Hamack explains that while USAFacts models its 10-K on that of a typical public company, there is no true peer group against which the organization could compare itself during the XBRL tagging process. For this reason, USAFacts worked closely with XBRL US. Were more governments to tag in iXBRL in the future, entities might review themselves against their peers and in this way ensure quality control for their final products.

By March, comments had been submitted, iterative changes made, and DFIN began working on the final version of the machine-readable USAFacts 10-K. One of the last steps before release was updating numbers as data was finalized.

The USAFacts’ machine-readable 10-K is available here: [\[PROVIDE LINK\]](#)

What iXBRL Means for Analysts?

Inline XBRL—or iXBRL—is an international XBRL standard. The technical fine points of the iXBRL standard are complicated, of course. But perhaps the best way to think about iXBRL is as a system that allows the transition of financial reporting from documents to a data stream—and back again.

With iXBRL, highly-structured streams of content can be viewed through a Web browser and thereby recreated as descriptive narratives that anyone can read and digest. In other words, iXBRL takes the very technical, structured content of XBRL and inserts it back into the HTML stream so it can be read and used by human beings. A document tagged in iXBRL can be read just as easily by a person as by a computer.

Lessons Learned

Perhaps the most important lesson others can learn from the USAFacts 10-K tagging experience is “that it’s not nearly as difficult or time consuming as it may seem,” says Hamack.

Hamack points out that in the past, she used a two-step process and separate word-processing and XBRL tagging tools for creating USAFacts' 10-K and accompanying XBRL. Employing a single tool—DFIN's ActiveDisclosure—to prepare the original document and tag it in iXBRL removed a time-consuming step from the overall process.

Going forward, iXBRL tagging will be easier still. “The good news is that once you have a template, ongoing time and effort are really quite small,” explains Truzzolino. “Once you define the structure of the 10-K, it doesn't change much year over year unless you are redesigning your accounting or have a significant number of new one-off transactions.”

The process may have been easier than expected, but one of the more daunting challenges arose from the need to create a sizable number of custom tags for items that were not adequately covered by either the CAFR or US GAAP taxonomy.

This situation will improve with time. When the SEC initially mandated XBRL in 2009 and 2010, the US GAAP taxonomy was untested and so 20-40 percent of tags within the first year were custom tags. A decade into filing with the SEC in XBRL, the US GAAP taxonomy is far more robust and the use of extension tags has dropped dramatically.

Knowing the problem of custom tags would arise, XBRL US's Savage took proactive steps when creating the CAFR taxonomy to limit their use. For instance, because a municipality might report several different kinds of current assets on its balance sheet, XBRL US created an asset category called “other current assets,” which can serve as a catchall for custom elements included under this heading. Now that there is a machine-readable tag for “other current assets,” meaningful comparisons can be made among governments.

Another positive outcome from USAFacts' early adoption of iXBRL is that the CAFR taxonomy will be richer going forward. XBRL US plans to incorporate new elements into this taxonomy based on the experience of USAFacts and others.

Helpful Hints

Look to public companies.

Although only one or two government entities report financials with the CAFR taxonomy, examples abound of how iXBRL is used in the corporate world. Seeing how public companies deploy iXBRL can provide some excellent models for state and local governments considering such a move.

Experiment with tagging a small section of your financials.

Some companies have waded into the iXBRL tagging process by creating a machine-readable version of just a few sample tables or a small section of a financial report. Beginning with manageable steps to gain confidence is a good way to test the process and gauge what resources will be necessary before undertaking a full conversion to iXBRL.

Visit the XBRL US and DFIN websites.

The XBRL US site—<https://xbrl.us>—has a wealth of information about tagging in iXBRL. Service providers like DFIN also have helpful videos and infographics on their sites. For instance, to see ActiveDisclosure in action, go to <https://www.dfinsolutions.com/products/activedisclosure>.

Consider Will County's example.

To see how the first county in the US is using iXBRL for its CAFR, go to <https://www.willcountyauditor.com/copy-of-xbrl-financial-report-2017>.

Familiarize yourself with the latest CAFR draft taxonomy.

On March 9, 2020, XBRL US released the latest version of the CAFR taxonomy; it is slated to be finalized and published in May. The draft taxonomy is available here: <https://xbrl.us/xbrl-taxonomy/2020-cafr/>

What the Future Holds

Just as tagging in XBRL got better, cheaper, and faster for public companies after the early-adoption phase, the same will happen for governments as they make their financial information machine-readable via iXBRL.

“The first time you use iXBRL is the most time-intensive,” emphasizes XBRL US’s Savage. “It gets easier every time you use it.” The cost of XBRL preparation has also declined. There was, in fact, a 45 percent price drop in the cost of XBRL tools between 2014 and 2017.

Seeing iXBRL in action through USAFacts’ example might spur regulators and oversight bodies to consider more dramatic moves toward structured data and away from outdated documents. A case study like this one may also hasten progress already underway, such as the January 30, 2020, filing of Bill HR0703 in the Illinois General Assembly. This bill, if passed, would encourage the adoption and use of XBRL by all Illinois municipalities in their financial reporting.

Even without a mandate, state and local governments have plenty of motivation to act. Joffe suggests there could be reputational gains for governments that embrace iXBRL early. “It shows you’re a transparent government and are pushing the envelope on new technology,” he says. “It’s exciting for a government and its constituents to get involved in something like this.”

In the end, says Truzzolino, all governments, regardless of size, will need to assess iXBRL for their financial reporting. “Standardization is the name of the game,” he concludes. “Structured data will be the key to making sure critical data are complete, accurate, transparent—and above all—useful.”

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